

The Fundamentals: A Cautionary Maintenance Tale

Written by Raymond L. Atkins, Contributing Editor
Friday, 23 March 2012 10:22



Squeaking by on pluck and luck doesn't count as an effective strategy.

This article is a sequel of sorts. The point is so important that it deserves some revisiting, with more details than I provided in my “[Maintenance New Year's Resolutions](#)” article earlier this year.

Many years ago, I worked as a mechanic in an automobile dealership. I was fair at my job, I suppose—*self-taught, one automotive failure at a time, while working on the selection of \$100 cars I had owned since my sixteenth birthday*. I had all the qualifications necessary for a successful career: I was confident, handy and unafraid of hard work. I had plenty of common sense and a knack for working on machinery. Plus, I owned a good set of tools.

I'm pretty certain I may have just described well over half of your maintenance workforce—and *you can be certain that you've wandered into a highly relevant cautionary tale.*

I assure you it's a true account. The fact that it's set in a major automobile dealership is merely a coincidence and has nothing to do with the point of the narrative. This is a story about process, not product. It could happen anywhere. In fact, a situation very much like it could be occurring in your plant right now. Read on...

Caught in a paradigm shift

Sometime during the early '70s, it was decided that the venerable \$2 set of points and the old,

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reliable \$1 condenser were outmoded technologies. As a result, automobile manufacturers began to shift production toward solid-state ignition. While those of us on the front lines down at the dealership level had heard rumblings of big changes in the wind, we really weren't concerned. We had received no official notification from our bosses, and none of us had been sent to school to learn about anything new coming our way. Thus, even if the manufacturer did sneak something different in on us—*which it was prone to do from time to time*—we were confident in our abilities to figure out how to work on whatever rolled off the assembly line.

We were, after all, mechanics: Fixing cars was what we did (and they had been running just fine with points and condensers for a long time). Per the general consensus around the break-room table, who in their right minds would mess with that kind of success? If they did, what would stop them from doing other crazy things. . . like turn engines sideways or build bumpers out of plastic?

So, I was unconcerned that fateful morning when I finished up a brake job and discovered my next assignment: a fresh-from-the-factory 1975 sedan (I told you this was a long time ago) that had just been pulled off the transport with a cable because it wouldn't start. My task was to get it running and out into the showroom. As soon as it was pushed to my stall, I popped the hood, placed a fender cover over the shiny paint job and went to work.

This vehicle model had only recently been introduced. Although I had never worked on one before, I wasn't worried. After all, this wasn't the first time a new car had failed to start. The basics of the internal combustion engine and troubleshooting procedures when one wouldn't run were always the same: I hooked up my remote start switch, pulled the coil wire and checked to see if it was firing. Just as I had suspected, it wasn't. Sometimes, the points on a new car would slip because they hadn't been tightened sufficiently at the factory. I was convinced that was the case with this one. Accordingly, I fetched my feeler gauge from the toolbox, leaned back under the hood and popped the clips on the distributor cap with my long screwdriver. Then I took a look under the cap.

People who find themselves inadvertently mired in a paradigm shift are generally the last to know it—and *I was no exception on that day of days*. Not only were there no points under the distributor cap to adjust, there wasn't anything readily identifiable as a condenser screwed to the distributor plate. There was an object that kind of resembled a rotor button, but only to the extent that it resembled a rotor button only slightly more than it resembled, say, a shoe. Though I realized, subconsciously, that I probably wouldn't find the missing components, I spent most of the next hour combing the car from front to back, looking for them.

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I finally gave up. I was in trouble, and I knew it. Getting a new car started was a warranty job: As such, it only paid one hour's labor at a reduced rate. I was already in the hole and still had no idea what was wrong. That's why I stepped to the next stall and asked my friend and mentor, Cornbread, if he might be available for a consultation. This guy was the best mechanic in the dealership. It was common knowledge that if *he* couldn't fix a car, it was simply not fixable.

Cornbread stopped what he was doing and came over to my stall, where he spent a full five minutes looking at what I was working on before saying anything. Then, as was his way, he got right to it.

Cornbread: *It doesn't have points.*

Me: *Right.*

Cornbread: *We need to find out what it's got instead of points. That's where the problem is.*

Me: *Are you saying you're going to help me?*

Cornbread: *I might as well. If you can't fix it, they'll give it to me anyhow.*

Cornbread was a man of few words. The two of us set about trying to determine what the vehicle had instead of points. We found a similar model on the lot, popped the hood and took a quick look around (just to be sure my lack of points and condenser wasn't some terrible mistake, a practical joke or a quality-control issue). Once we confirmed that this and another point-less vehicle on the property could actually start and run that way, we went to the parts window to see if the vehicle manual was available. We were told it was—and *that it should be delivered either Friday or the following Monday.*

Unfortunately, it was only Tuesday, and the sales manager had already been back to the shop to check on my progress. As he put it, he had a hot prospect for this car and didn't want to lose a sale.

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The pressure is on

Let's review: I was a competent mechanic who had been given an unfamiliar piece of equipment on which to work. I had received no training on it; common sense had utterly failed me in light of the new technology I encountered; and I was already over my allotted time for the job. Trying to salvage things, I had enlisted the aid of a fellow mechanic—*which meant he wasn't working on his own assignment.*

Furthermore, there were no specs or instructions on hand, although a manual was on order. To make matters worse, the sales department had begun leaning on me because of the customer coming in for a test drive. Regardless of the nature of your business or the actual type of machinery your technicians work on, I bet this story sounds at least vaguely familiar. So, keep reading...

A call was put in to the regional service manager. After Cornbread and I explained our predicament and advised him of the steps we had already taken, he advised us to consult the manual regarding troubleshooting protocols for new solid-state ignitions. We agreed that was one heck of an idea were it not for the fact that the manual was en route. He then recommended we use the new diagnostic tool that was being supplied to all dealerships to help with any solid-state issues. After first checking with the supply clerk—*who had never heard of this new tool*

—we returned to the phone and informed the factory man that the device was apparently being shipped with the manual. About that time, the regional service manager said he had to take another call. As he hung up, he suggested that if we couldn't think of anything else to try, we might want to "replace the black box."

The sales manager was waiting for Cornbread and me when we got back to my stall. He wanted to *again* check on our progress. The three of us inspected the disabled vehicle from top to bottom, looking for the elusive black box. Although we couldn't find a black one, we did discover a blue box that seemed to offer some potential. Bolted to the firewall, it had wires coming out of it, implying that it might be electrical in nature. We removed this box and carried it to the parts window where we asked for another one just like it. The parts man looked it up, told us he didn't have one on the shelf, but could probably get something to us by— *you guessed it*—the following Monday.

Cornbread made a comment I won't repeat here, then he and I did something that maintenance people have been doing ever since there have been things to fix: We "borrowed" the blue box, installed it in the car we were anguishing over, started it up and let the sales manager have it with our blessings.

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Hard lessons learned

How many times in the history of your maintenance organization has a job gone awry due to new technology, lack of training, no documentation, time constraints, improper tools, parts shortages, inadequate planning or overall lack of information? Admittedly, it is rare for all of these snafus to happen on a single job as they did on mine—*I guess I'm just lucky that way.* (All snickering aside, such issues are major impediments to the success of your maintenance effort.) How many times, when one or more of these issues has come to bear, have you squeaked by using a combination of parts-swapping, head-scratching and luck? As the old saying goes, that's no way to run a railroad (or a shop)!

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