

Repair Basics



It seems you can't turn on the television today without coming across a new "CSI" show.

We now have CSI Las Vegas, CSI Miami, CSI JAG, and we'll soon be able to veg out in front of CSI New York.

In the same mould are other investigative shows like Crossing Jordan, Law & Order, Law & Order SVU, and Law & Order CI.

I like these programs because they illustrate a point that I learned many years ago as an automotive technician: sophisticated investigation requires keen diagnostic skills and access to all of the relevant facts.

These shows challenge viewers because investigations follow more than one path. If you're going to get to the solution, you have to be on your toes. You have to review the facts several times over and follow up on every new fact. Along the way, there are red herrings, dead ends, and leaps of logic.

Sound familiar? Automotive technicians face that everyday, especially the diagnostic specialists among us. When a problem vehicle is brought into a service center it's in for one of two reasons; there's either a maintenance issue or a performance issue. The latter is the more challenging to a technician, as he will need all the relevant facts to properly diagnose a problem and effect the necessary repairs.

Back in the mid-70s, a customer came into our shop with an engine performance problem. The technician assigned to the repair order completed his work, test drove the vehicle, and returned it to the customer. A few days later, the customer returned, complaining that the performance problem had returned. The technician rechecked his work, made a few minor adjustments, test drove the vehicle again, and returned it to the customer. Well, you guessed it, a few days later the

CSI: Automotive

Ever felt like you were the lead character in your own investigative television series?

By Richard Goulet

customer reappeared with the same problem.

It was customary in our shop that on a second comeback, a different technician would tackle the problem. And this time I was the lucky one.

As in the CSI television programs, I started by reviewing all the facts. The vehicle had originally come in for a tune-up with requests to check and replace filters as necessary.

Today's forensic cop shows illustrate what automotive technicians already know: investigation requires keen diagnostic skills and access to all the facts

The spark plugs, points and condenser, air and fuel filters, distributor cap and rotor, and ignition wires were all replaced. Compression was checked, and timing was adjusted. When it returned, less than a week later, there was a specific complaint of hesitation. Point dwell and timing were readjusted. When it returned, there was still a complaint of hestitation.

Not much to go on, really, so I spoke to the service advisor to review his conversations with the customer on the original repair and the comeback repair orders. He did not highlight anything more than what was in the repair order write ups, so I contacted the customer for his version of the repair request. His version was somewhat different. He said he'd come in complaining of a hesitation when he was attempting to pass a vehicle on the highway. Clearly the first technician who was told simply that the vehicle needed a tune-up was never even

aware of the original problem. In this case, the service writer had simply suggested that most of these problems were corrected by having a tune-up done, and that's how he wrote up the order.

I was able to approach the problem with a fresh set of facts. I took the vehicle for a test drive on the highway to verify the hesitation, and then proceeded to test the mechanical fuel pump for pressure. As I suspected, the fuel pump was not able to maintain pressure. Once I replaced the pump the hesitation problem disappeared.

A technician's diagnosis is greatly compromised if he doesn't get all the necessary information up front.

In this case, the first technician did his job as he was directed on the original repair order. The glitch was that the service writer had pre-diagnosed the problem, suggested a solution and left out a key piece of information: hesitation at high speeds. As a result, the customer was required to come back on two separate occasions to have the vehicle properly repaired.

In today's automotive repair industry there has been a trend to move the technician away from the customer in the mistaken assumption that this will enhance productivity. In fact, it can lead to problems because the technician is deprived of perhaps the best source of facts.

It would be like a crime scene investigator not being able to question all the witnesses to the crime.

A diagnostic repair technician and a crime scene investigator share many skill sets. And for both of them to do their jobs, they need access to the best facts available.

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