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MOTORING

With This Tool, You Tell a Mechanic What's Wrong

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SAM employees help Teresa Sardine read a report from a kiosk in Georgia. At right, the kiosk's

TWO of the most alarming words a car owner can face are "check engine." That warning light on the dashboard could mean the car needs expensive engine work or simply that the gas cap is loose.

For most drivers, there's no way to find out without taking the car to a mechanic. The primary reason is that vehicles are largely controlled by onboard computers, which are generally inaccessible without the proper equipment and software. So when that check engine light goes on, a mechanic has to link to the car's computer to obtain the codes that detail the problem and then translate those codes, which are indecipherable to most mere mortals. You must trust his translation and hope that the loose-gas-cap code wasn't misinterpreted as the get-out-your-checkbook code.

But there are a growing number of products and services that are helping to take that helplessness out of car repair by doing the translation for you. A Connecticut company has begun to place drive-up kiosks in some Southern states that offer a do-it-yourself computerized car check. With this system, you can arrive at the mechanic with some idea of what's wrong with your car, even if you don't know how to fix it.

Since 1996, all vehicles have been equipped with a standard plug, called the on-board diagnostics, or O.B.D.-II port, to access a car's emissions codes. The port is just under the dashboard on the driver's side of most vehicles. Furthermore, as the sophistication of safety, engine, transmission and even entertainment systems has grown, the O.B.D. port has increasingly been used to tap into these onboard computers as well.

Professional mechanics can spend about \$6,000 on diagnostic tools and pay monthly subscription fees for up-to-date codes. In most cases, consumers can obtain the same information online by subscribing to services provided by individual automakers, but this can be expensive. Chrysler, for example, charges \$20 a day, or \$200 a month, for such information. And you still need a device to pull the codes from your car's computer.

Some service centers, like Pep Boys, charge \$85 or more to run a computer diagnostic check, although your local mechanic may do it without charge. However, the kiosks that are arriving at some service centers, gas stations and auto parts stores may obviate the need for fees or for favors from a mechanic.

Environmental Systems Products of East Granby, Conn., has designed a system, called SAM (for Smart Auto Management), that looks like a gas pump. Drivers pull up to a SAM kiosk and tap its touch screen to watch an instructional video. SAM walks customers through the process, which involves paying a \$15 fee with a credit card, scanning the car's vehicle identification number, or V.I.N., bar code (usually found on the door frame) using a scanner and connecting a lunchbox-size wireless diagnostics reader to the vehicle's O.B.D. port.

The whole process takes less than 10 minutes. At the end, a motorist receives a lengthy printout listing any detected diagnostic codes and their meanings. For example, in one test report the SAM printout explained that a P0125 code meant that the engine coolant sensor was unable to record the correct temperature, which could result in poor fuel economy and engine performance. It also indicated the seriousness of the problem (not very) and possible fixes. An additional page noted if any recalls or technical service bulletins, or T.S.B.'s, had been issued by the automaker. To get a detailed listing of T.S.B.'s and recalls, consumers have to register at the SAM Web site, iamsam.com, and pay \$20 for an annual subscription to track up to seven vehicles.

The SAM system isn't perfect. My 2000 [Dodge Durango](#), for example, had a new transmission control module that wasn't properly connected to the truck's main computer. Consequently, it couldn't communicate with SAM.

"But it's not just for people who think there's something wrong with their car," said Art Jacobsen, vice president for product development at SAM. "It can tell you if there's something wrong with a used car you're about to buy, like if an air bag is missing."

The company opened its first 200 SAM kiosks mainly in North Carolina and Atlanta and hopes to expand nationally later this year, part of a trend to give consumers better access to their car's computers.

Already available are inexpensive hand-held devices like the \$90 CarMD, which plug into the O.B.D. port on most vehicles. Should your vehicle have problems, the CarMD will display the

diagnostic codes from the car's computer on its small screen. To translate the codes, owners install CarMD's Windows-based software on a PC and plug the device into the computer's U.S.B. port. The device then connects to CarMD's site to explain the codes. The site identifies the specific codes for a vehicle based on the V.I.N. typed in.

In my case, the CarMD report indicated that two engine sensors might be malfunctioning. However, the report was still littered with inscrutable abbreviations like E.T.C. and I.A.T.

Inilex, which makes a competing product to the LoJack antitheft device called the Kepler Advantage, is planning to add basic car diagnostic information to its location tracking service. The device, which costs \$1,100, uses a global positioning system, or G.P.S., to determine a car's location and then to inform owners via an e-mail message when the vehicle has traveled outside an approved area. This summer, the company is hoping to introduce a \$14.99-a-month service that will not only track a vehicle's location, but also monitor basic diagnostic information, like coolant levels and the condition of the transmission.

Although automakers charge for access to their codes, by law translations of the emissions control codes have to be available to all mechanics to meet federal requirements and state inspections. Furthermore, there is legislation pending in three states — Massachusetts, New Jersey and New York — that seeks to force automakers to make all of their computer diagnostic and control codes available to independent repair shops and installers. Still, now that consumers are getting do-it-yourself access to most codes, there's no doubt that diagnostic services like SAM are a step in the right direction.

And if one is available in your area, even if you're not buying a car or trying to ignore a check engine light, a clean diagnostic report could give you peace of mind before you load up the family sedan for that long summer vacation drive.