

CAR TALK

CAR SHOW:

If you're wanting to get out this weekend (Feb. 11 & 12) and enjoy the nice weather, there's a Dr. George Memorial Car Show being held at the Indian Wells Tennis Center out near Palm Springs. They're featuring over 1,000 Classic cars, trucks and motorcycles. That would certainly make for a nice little Sunday drive.

(1-760-360-9798)

TEKKIE STUFF:

Oxygen Sensors- If your car is less than 30 years old, then most likely you're the proud owner of one or more oxygen sensors. Late model Vettes are equipped with four of 'em, two on each exhaust pipe.

Here's a little quiz for you: The core of a typical oxygen sensor is a zirconium dioxide (zirconia) ceramic. Oxygen ions flow freely through this ceramic after it is heated to 600 degrees F. What else is zirconium dioxide used for?

- A. Imitation diamonds
- B. Thermal barrier coatings for diesel engine parts
- C. Foundation for dental crowns

No matter which answer you choose, you are correct. All of them are correct.

Oxygen sensors thread into the exhaust system where they get blasted with hot exhaust gases. When they fail, it's usually because the bulb inside the exhaust pipe has been exposed to lead, silicone, antifreeze, engine oil or other contaminants. Most people are not aware of the role that the other end of the sensor plays. Surprisingly, the visible end of the sensor with the wire pigtail is just as important and sensitive to contamination as the end stuck in the exhaust pipe.

You see, oxygen sensors are designed to measure the difference between the oxygen level in the exhaust with the oxygen level in the outside air. The

sensor generates a voltage based on the difference in oxygen levels that the engine computer uses to continuously adjust the fuel mixture and other stuff. The outside air the oxygen sensor needs for its comparison enters the sensor at the end with the wires sticking out. Depending on the particular design, the air might enter through a dedicated hole or through the wires. The sensor's air inlet is usually protected by a silicone boot, porous PTFE (Teflon) or some other means. An occasional splash of water is not likely to hurt a sensor, but leaking chemicals (such as engine oil, power steering fluid, antifreeze, etc.) can clog or enter the oxygen sensor air inlet and damage the sensor. Otherwise smart and well-meaning folks have been known to try to "protect" their oxygen sensors by spraying them with lubricant or covering them with tape or insulation. Obviously, as you now know, those actions often backfire on them if they block the sensor's air inlet.

Oxygen sensor installation instructions emphasize that the entire sensor, including the wiring harness, is part of an integrated system. Routing and connecting the wires is as important as carefully threading the sensor into the warm exhaust pipe. The instructions for installing a Bosch sensor has just two steps covering the removal of the old sensor and screwing the new sensor into the exhaust port, while listing ten steps for the connection and routing of the oxygen sensor's four wires.

The oxygen sensor bulb buried in the exhaust pipe is on its own, but you can maintain the other end by making sure the wiring harness is never torn, misrouted or covered with goop.

(Courtesy of Tom Taylor @ Rockauto.com)

Tire Pressure Monitors:

A late model Corvette owner wrote this letter:

"Our Corvette club has several C6 owners and questions have arisen as to the exact function of the tire pressure monitors in our cars. Obviously they tell you what your tire pressures are, but some owners think this is only one of their functions. If a tire's pressure drops below some acceptable level, or if the tire loses all pressure, does the TPM communicate with the ECM to limit the speed of the car?"

Answer: The tire pressure monitoring system is not linked to your Corvette's speed, and a low-pressure warning does not electronically limit the speed you can attain. Strangely enough, Chevrolet has faith in the good judgment of its customers to limit the speed themselves when the pressure monitoring system indicates that a tire has insufficient pressure.

Second question: I'm told the TPM's are battery-powered; what is the expected life of these batteries? Can the batteries be replaced, or does the TPM have to be replaced?

Answer: The expected battery life in the pressure sensors is about 10 years. The sensors are not designed to allow for easy battery changes, so most people simply replace the sensors with new ones when the batteries die.

If you drive a C5 and you've been considering upgrading your headlamps the super bright Xenon HID units, or if you've already done it, this item's for you.

A guy with a 2000 coupe said his new HID lamps work great, but caused one problem: When he turns off the lamps the light pods don't retract unless he first switches to high beams. The store that sold him the light kits told him that Corvettes tend to have this problem. He wanted to know what he could do to fix this annoyance.

The problem with headlamps refusing to go down after you shut them off is common after changing to HID lamps. Normally, when you shut the headlights off, a computer in the Corvette responds to the change in current flow in the headlamp circuit and directs the light housings to retract. However, the Xenon lamps' electrical draw is significantly different from the draw of the stock headlamps and the computer therefore does not recognize that the lights were turned off.

To solve this problem you need to add a resistor to the headlight circuit. A lot of parts vendors sell a small resistor/wire kit for this application.

TRUE STORIES:

You may have noticed that I like passing along stories that remind us how important it is to take your time when you do repair work on your cars to minimize damage, both to yourself and your beauty of a car.

Dana from Wisconsin says his worst mess up was after he performed a brake job on his pick-up. "I was in a hurry to take my girlfriend shopping. We left home, headed out onto the highway and got up to speed. Only.....my truck didn't feel right somehow.....when, all of a sudden.....I was driving a low-rider! I saw a wheel whiz past me heading down the freeway as I was grinding to a stop. Sure enough, a rear wheel had come off! I had forgotten to tighten the lug nuts.

Fortunately we were ok and there was no serious damage to the truck; the backing plate didn't look too hot, kinda ground down on the bottom. My girlfriend called a tow truck while I went hunting for my brake drum, which seemed to have disappeared. I eventually found it a couple hundred yards down the road, across four traffic lanes and a median, up on top of the road cutout on the far side of the freeway. The thing that had finally stopped it was the fence. No real damage to the wheel, either. I just put it back on when I got home. To this day, my girlfriend, now my wife of 18 years, still asks "Did you tighten the thingies?"