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OBDII CATALYST MONITORING

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In the August 2008 “Tech Bulletin” we talked about Oxygen sensors. We discussed their design and function and gave examples of testing techniques to determine if they are functioning properly. We emphasized how critical these sensors were to the PCM’s (Powertrain Control Module) ability to control the air/fuel ratio in closed loop operation. In recent years we have taken this sensor and applied it to another function of the PCM, Catalyst Monitoring. By adding a second oxygen sensor in the exhaust stream, typically directly behind the Catalytic Converter, the PCM can monitor the oxygen storage capacity of the converter.

As was stated in last months Bulletin, one of the major changes between OBD I and OBD II is the computers ability to recognize degradation through monitoring systems. The purpose being, to alert the vehicles owner of an impending emissions problem before the vehicle became a “gross polluter”. The Catalyst Monitor is one of those systems along with Misfire, Evaporative, EGR, Oxygen Sensor and more. For the most part this newest form of minimizing a vehicles impact on the environment has been less-problematic. However it hasn’t been completely “problem free”!

The second generation of On-Board Diagnostics became mandatory starting with the 1996 model year. In the early years of OBD II, manufacturers had to deal with a myriad of problems including communication errors, false codes, and incorrect data and in the case of Catalyst monitoring, overly ambitious programming in the PCM. In some instances it was determined by the vehicle manufacturer that the calibration used to monitor catalyst efficiency was too tight and they were setting false, or at the very least premature, P0420 codes. At this point the OEM would issue a Technical Service Bulletin (TSB) addressing this issue. Typically the TSB would specify which vehicles were problems, make recommendations for any diagnostic testing needed and then supply the necessary information to the technician to reprogram the computer. At one time this task could only be done by the new car dealer; however the ability to reprogram vehicles for any and all problems has slowly been made available to the aftermarket.

The P0420, “Catalyst Inefficiency” code problems that we face today are of a completely different nature as the computers on vehicles have become much more sophisticated. Until recently, the rules set forth by the California Air Resource Board (CARB) for California and the EPA for the other 49 states have not addressed the need for catalytic converters to be compatible with OBD II systems. We have used the term OBD II Compliant, but that really only addressed part of the issue. The OEM has invested months and sometimes years into developing converters that are compatible with their own on-board systems and now with the latest changes with the laws in California, the aftermarket manufacture has found themselves in the unenviable role of playing catch up.

Car-Sound has committed all of its resources to accomplishing the task of not only being the “first to market” with the converters needed to comply but also #1 in quality and customer service. Sometimes complying with new regulations can have a negative connotation. In this instance however it has forced the industry to address a very real problem facing repair shops across the country. Being OBD II Compatible is the goal and from R & D to manufacturing, we are committed to accomplishing it!

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Cleaning up the environment…one converter at a time

Gary

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