November 2009 edition

eAir REPAIR

In This Issue

Don't Overlook Monitor Criteria

By: Jeff Napoleoni J&S Ultimate Automotive, Inc.

This is a situation I encountered and would like to share with your readers. The vehicle was a 1999 Saturn 1.9 DOHC.

Description of Problem:

- Vehicle rejected for monitors.
- Scanned vehicle and found MIL off with three history codes: P0341 camshaft position sensor circuit, P1599 engine near stall, and P1620 coolant level circuit. No current codes.
- CAT not ready, EVAP not ready, EGR not ready.
- Mode 6 data—CAT steady cruise failed (marginal); oxygen sensors look OK; high bias by .7xx VDC on downstream oxygen sensor PID (but not the following upstream oxygen sensor). Again there were no hard codes.
- Drove car from a cold start and all the PID's looked normal. Made a mental note that the vehicle did not reach operating temperature and never got above 124° F.

Solved The Problem:

- Decided to look at monitor enabling criteria. For each of the three failed monitors, coolant temperature needed to be above 144° F for EVAP and 170° F for CAT and EGR.
- Recommended and installed a new thermostat.
- Made a trip around town, and sure enough both the EVAP and EGR had cleared monitors with the CAT soon to follow.

Advice:

- The moral of the story is that when monitors do not set, something is hanging them up. Research monitor enabling criteria and follow it.

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When My Phone Rings

By: Dave Alder from Applus Technologies, Inc.

In-Range Sensor Failure

I would like to share some advice I gave to a couple of repair shops this month. Calls came in related to diagnosing problems with vehicle monitors not setting. One particular vehicle had been rejected at the testing station, and the shop owner commented that he also had another vehicle in his shop with the same problem. As a matter of fact, they were the same year and same model vehicles. When I asked what work was done to the vehicles, the shop owner said that for the past few weeks, they had done a lot of "driving around." After that, they started "changing out parts," including oxygen sensors and the PCM. They still couldn't get the monitors to run. The shop owner made the following statement, "There is nothing wrong with the car. The MIL is not on." I asked him how the MIL gets turned on, and he said, "The PCM does it." This statement is true except that the PCM does it after the monitors have run. You need to consider what might be preventing the monitors from running. What about an "in-range" sensor failure?

As an example, I recently worked on a vehicle that was rejected due to monitors. I hooked up my scan tool and looked at the data stream. Even though it was the end of summer, the ambient temperature sensor read 34° F. Thus, the car always thought it was the middle of winter, even in the warm summer months. On this vehicle, the monitors would not run because the drive cycle was from a cold soak. The coolant temperature never got close to the ambient temperature, so the monitors never ran. By the way, the MIL was not on because the PCM for this particular vehicle is programmed to accept a reading ranging from +130° F to -40° F without setting a code. In this situation, the problem was an "in-range" sensor failure. The point that I am trying to make here is to carefully check all of the sensors, then check whether the readings from the MAF sensor were out of range. Just a couple of grams per second could skew the readings enough to keep monitors from running. Oxygen sensor frequency is also another area of concern. A slow oxygen sensor can also keep the CAT monitor from running. Remember that any "in-range" sensor failure can keep a monitor from running and the MIL will not be commanded on.

That's it for this month. Please call me at (847) 616-6064 if you have any questions. If you have a good question, it may appear in a future issue to share with fellow technicians and shop owners!

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The Chicago Automotive Networking (C.A.N.) Conference

From: the Illinois EPA Repair Industry Outreach Team

Hundreds of repair industry professionals attended the Chicago Automotive Networking Conference, presented by the Automotive Service Association of Illinois Mechanical Division (ASA) on October 17th in Rosemont. Dozens of vendors presented seminars and displays designed to help technicians and shop owners perfect their skills. The conference also proved to be a great opportunity for the Illinois EPA to reach out to those who had not yet signed-up for access to the Dashboard. You can use the Dashboard to report repair data via the internet, to review your shops' grade details, lookup vehicle test histories and test results, register for seminars, and use a repair industry forum to leave messages seeking help or tips on successful repairs. If you are interested in obtaining access to the Dashboard, go to our secure website: https://www.ildashboard.com and click on the "Repair Community Sign Up" icon at the top of the page.

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Dashboard Tip of the Month

From: the Illinois EPA Repair Industry Outreach Team

Make Sure to Change Assigned Password

Your assigned password will expire December 1, 2009. When you initially signed-up for access to the Dashboard, a default password was assigned. It is now time to change that password to a unique password of your choice. The assigned default password will expire on December 1, 2009. If you haven't done so already, simply navigate to the "Change password" link at the top of the Repair Community page, or click here: Change password

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November and December 2009 Seminar Schedule

All seminars are from 6-10 pm on dates below.
They are sponsored by the Illinois EPA for the repair industry and they are free!

- 2009 Complete Seminar Schedule

Communication Protocol Testing for OBD Failures

This seminar will review proper testing techniques for communication issues with the PCM and various modules as it relates to OBD failures. The communication topology that will be discussed will focus on GM, Ford, and Chrysler systems. This is a "must attend seminar" for serious OBD repair technicians.

ID	Date	Location
K207	Dec. 3, Thursday	Oakton Community College

Diagnostic Techniques for OBD Failures

This seminar will focus on the use of OBD scan data, freeze frame, and failure records as a means to a successful OBD repair. The Illinois "Dashboard" website will also be included in the diagnostic process. The overall goal of this presentation is to emphasize efficiency in testing and repair techniques for OBD failures.

ID	Date	Location
K108	Dec. 1, Tuesday	Truman College

Waveform Analysis

The emphasis of this seminar is on real world applications of labscopes and graphing scan tools for driveability diagnostics. Discussion topics will include scope features that aid diagnosis, waveform capture and storage techniques, graphing scan tool and scope analysis case studies, and a live demonstration using PowerPoint to build a case study. Creating repair files using PowerPoint is one of the best ways to build a repair database for later review or for in-shop technician training.

ID	Date	Location
S505	Dec. 16, Wednesday (Note date change.)	Collinsville State of Illinois Complex

OBD Code Repair Using Lab Scopes

This seminar is devoted to helping technicians develop a plan for successfully repairing OBD emission failures using labscope testing strategies. OBD testing will be reviewed and actual failure case studies will be looked at to help understand the test capabilities of scopes and probes. Using computerized information systems and code charts will be discussed to make diagnosing OBD code problems easier.

ID	Date	Location
S104	Nov. 23, Monday	Morton College
S105	Dec. 8, Tuesday	Universal Technical Institute

OBD Repairs Using Scan Tools

This seminar will show repair technicians the capabilities and enhanced functions of a variety of aftermarket and factory scan tools for system testing and OBD vehicle repair. Emphasis will be placed on bi-directional controls for testing and diagnosis found in many of the scan tools available today. Graphing scan data analysis and testing strategies will be discussed. The goal is to get the most from these tools and shorten diagnostic times. Actual vehicle case studies will be shown to illustrate these points.

ID	Date	Location
S204	Nov. 24, Tuesday	Morton College
S205	Dec. 9, Wednesday	Universal Technical Institute

Readiness Monitor Challenges

This seminar will address the growing problem of OBD emissions test rejects due to monitor status being "not ready." The new changes in the testing program will make first retest rejects count against a shop's grade, so making sure monitors run to completion is critical. Case studies of vehicles with difficult to set monitors will be studied. A strategy for addressing vehicles that won't run monitors will be discussed along with using scan tools and Mode 6 to help determine a solution to this often challenging problem.

ID	Date	Location
S406	Dec. 15, Tuesday (Note date change.)	Collinsville State of Illinois Complex

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Articles Needed for eAir Repair

From: the Illinois EPA Repair Industry Outreach Team

We are always looking for short articles of interest for eAir Repair. Many of you have gathered information for successful emissions repairs. It is time to share those tips with your fellow technicians. Please help us out by writing a brief story (a couple of paragraphs) about your success or fix.

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