

eAirREPAIR

March 2010 edition



2000 Honda Civic with a Code P1298

By: Tony Barcham from Car X Auto Service, Chicago IL

I was recently working on a 2000 Honda civic 1.6 SOHC with a P1298-ELD circuit high voltage. What is ELD? It measures the main current flow and sends that signal to the ECM to command the alternator charging system to get fuel efficiency and decrease the drag of the engine when starting. As the system is designed, I should get around 3.5V no load and 1.4V maximum load at ECM input from ELD signal. Now I have to make sure which one is defective, the ELD or the ECM?

The MIL will illuminate when the ECM doesn't see the voltage drop from the ELD input. It was happening intermittently. We connected the scope at the ELD input pin A30. After starting the car several times, we did not see the voltage drop. We replaced the ELD unit in the fuse box, and the problem was solved.

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Work Smarter Not Harder

By: Matt Weber from Clark's Car Care, Naperville IL

Use Dashboard as Information Resource

Just when I thought I had seen it all; a vehicle that failed the emissions test came into my shop, but I found that it did not need repairs. The vehicle had previously failed an emissions test and had repairs done by another shop. I utilized the Dashboard to check the vehicle test history and looked through the customer receipts from the other repairs. Previous repairs included ignition parts, but a current pending failure code for random misfire still existed. Many monitors still had not run. Although it appeared that appropriate repairs had been made to the vehicle, the monitors still had not run. This customer was frustrated because he could not pass the emissions test.

I started fresh by going back to basics. My main goal was to get the car to pass the emissions test. As I was about to get onto the highway to see what codes came into system, I remembered that 1/2 sheet of paper on the back of an Air Review newsletter listing vehicles whose readiness monitors that are difficult to set. Sure enough this Volvo was one of those vehicles. These vehicles will not be rejected for readiness status at the testing station. Because the previous repair shop did not retest the vehicle after repairs, this was not identified. The motorist thought the vehicle was still broken. I headed back to the emissions station and successfully passed the test.

The point of this story is that the hood never needed to be opened to pass the test. Through training and knowledge from the Outreach Seminars, I got the vehicle to pass the test within an hour and now have a customer for life!!! Work smarter not harder. Use your knowledge, resources, and training.

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Got a Case History

- » Share your case history and tips.

Federal Emissions Performance Warranty

From: the Illinois EPA Repair Industry Outreach Team

Currently we are testing 1996 through 2006 vehicles. With the new model year (2006) vehicles being selected for testing and as a technician, you should keep in mind that these vehicles may still be under Federal Emissions Performance Warranty.

Performance Warranty

Specified major emission control components are covered for the first 8 years or 80,000 miles (whichever first occurs). If you are a resident of an area with an Inspection and Maintenance (I/M) program that meets federal guidelines, you are eligible for this warranty protection.

What Are Specified Major Emission Control Components?

There are three specified major emission control components, covered for the first 8 years or 80,000 miles of vehicle use (whichever first occurs) on 1995 and newer vehicles:

- Catalytic converters
- The electronic emissions control unit or computer (ECU)
- The onboard emissions diagnostic device or computer (OBD)

For more information regarding this warranty, please refer to the EPA environmental fact sheets at the following websites: <http://www.epa.gov/otaq/regs/im/obd/pubs/420f09048.pdf>

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When My Phone Rings

By: Dave Alder from Applus Technologies, Inc.



Diagnose First

There is one call I want to share about diagnostic skills. A very frustrated technician told me he had a car with a P0xxx code, and he replaced the PCM to repair the code. The code came back, and he replaced the PCM two more times.

Three PCM s later the car still had the same code. At this point the technician

asked me if I had any ideas on how to go about diagnosing and repairing the

vehicle. My first idea was to stop replacing PCM s. It is highly unlikely that the original PCM and 3 new

replacements would all be "bad" with exactly the same code. I asked the technician what diagnostics he did. He

said he read the code and bolted on a PCM. The technician had not yet checked for power or ground to the PCM.

The Outreach seminars that the EPA hosts cover a wide variety of topics, one of which is Diagnostic Techniques for OBD Failures. Ken Zanders, the presenter of this seminar, always says to check feeds and grounds. This technician needs a diagnostic strategy. The days of read a code and hang a part are over. Develop a plan and use it. Develop a network of sources for assistance. The obvious ones are IATN, Identafix, ALLdata, and the Forum on Dashboard. A strategy is essential to correctly diagnose and repair a vehicle. Make sure you have the tools, equipment, and information you need in order to repair the vehicle successfully. If you need assistance at develop strategies to correctly diagnose and repair emission problems, check the 2010 Outreach Seminar Schedule on the Dashboard.

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Dashboard Tip of the Month

From: the Illinois EPA Repair Industry Outreach Team

Use Dashboard Forum as Information Resource

If you have a repair that you are having problems with, try using the Dashboard Forum. The forum is a proven resource to tap into the expertise of your fellow technicians.

Remember when posting to the Forum:

- Be specific (plate number, year, make, model, engine size)
- Include all of the repair history
- Include your diagnosis
- Include what you have done so far
- Be courteous and use forum etiquette
- Post a conclusion so others can learn

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2010 Seminar Schedule

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

[2010 Complete Seminar Schedule Registration](#)

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Location



OBD Code Repair Using Labsopes

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.

Presented by: [Scot Manna](#)

ID	Date	Location
M703	April 7, Wednesday	Oakton Community College
M704	August 25, Wednesday	Truman College

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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.

Presented by: [Scot Manna](#)

ID	Date	Location
M803	April 8, Thursday	Oakton Community College
M804	August 26, Thursday	Truman College

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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.

Presented by: [Ken Zanders](#)

ID	Date	Location
Z502	March 3, Wednesday	Technology Center of DuPage
Z503	May 3, Monday	McHenry County College
Z504	September 8, Wednesday	Prairie State College

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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.

Presented by: [Ken Zanders](#)

ID	Date	Location
Z201	March 1, Monday	McHenry County College
Z202	April 5, Monday	Joliet Junior College
Z203	May 4, Tuesday	Moraine Valley Community College
Z204	June 9, Wednesday	Technology Center of DuPage

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Enhanced Toyota EVAP Systems (NEW)

Toyota enhanced EVAP systems are significantly different than the systems found on domestic vehicles. This seminar will explain the operation of the most common Toyota OBD EVAP systems, both early and later systems. The seminar will also cover the new Key Off Vacuum Pump system and will discuss in detail the system operation and most importantly the system testing. Testing techniques will include the use of a scan tool, manometers, smoke machine, and a lab scope. Scan tool bi-directional controls will be covered as well as manual test methods.

Presented by: [John Thornton](#)

ID	Date	Location
T302	March 25, Thursday	Lake County High School Tech Campus
T303	April 1, Thursday	Kennedy-King College
T401	May 6, Thursday	Prairie State College

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Using Mode \$06 Data for OBD Diagnosis and Repair (NEW)

Monitors are the key to OBD emissions testing success. Mode \$06 displays the monitor's results beyond a simple pass or fail. Using Mode \$06 data can expedite some emissions repairs and can even make diagnosis of some readiness rejects possible. This class starts with a brief overview of Mode \$06 data and how to decipher its meanings. Time will be spent on the do's and don'ts including the grey areas of invalid data. Many actual vehicle case studies will be used to illustrate the practical applications of using Mode \$06 data for successful OBD diagnosis and repair. Different scan tools and information resources will also be discussed.

Presented by: [Scott Shotton](#)

ID	Date	Location
S902	March 9, Tuesday	Prairie State College
S903	April 20, Tuesday	Lake County High School Tech Campus
S904	May 25, Tuesday	Kennedy-King College
S905	August 3, Tuesday	State of Illinois Complex, Collinsville
S906	August 10, Tuesday	Morton College
S907	September 14, Tuesday	Technology Center of DuPage
S908	October 19, Tuesday	Joliet Junior College

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Mass Airflow and Fuel Trim Diagnostics (NEW)

This seminar will help the driveability and emission technician make accurate decisions regarding diagnosing Mass Airflow sensor problems and fuel trim issues. A three-step procedure for testing Mass Airflow sensors will be illustrated. Fuel trim operation and strategies will be discussed as well as using fuel trim values to help diagnose driveability problems. Vehicle repair case studies will be used to enhance understanding.

Presented by: [Scot Manna](#)

ID	Date	Location
M601	March 22, Monday	Truman College
M602	April 28, Wednesday	State of Illinois Complex, Collinsville
M603	May 11, Tuesday	Oakton Community College
M604	June 17, Thursday	Kennedy-King College
M605	September 16, Thursday	Joliet Junior College
M606	September 21, Tuesday	Morton College
M607	September 23, Thursday	Moraine Valley Community College
M608	October 13, Wednesday	Lake County High School Tech Campus
M609	November 15, Monday	Technology Center of DuPage
M610	December 13, Monday	Prairie State College

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Advanced Communication Protocol Testing for OBD Failures (NEW)

This seminar will take a more in-depth look into communication issues. Case studies will be reviewed with a strong emphasis on labscope and advanced techniques leading to repair. This class was designed for the serious emission and driveability specialists.

Presented by: [Ken Zanders](#)

ID	Date	Location
Z101	June 7, Monday	State of Illinois Complex, Collinsville
Z102	August 2, Monday	Oakton Community College
Z103	August 5, Thursday	Prairie State College
Z104	September 9, Thursday	Lake County High School Tech Campus
Z105	October 4, Monday	Kennedy-King College
Z106	November 8, Monday	Truman College
Z107	November 9, Tuesday	Morton College
Z108	December 6, Monday	Moraine Valley Community College
Z109	December 8, Wednesday	Technology Center of DuPage
Z110	December 9, Thursday	Joliet Junior College

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Four Wire Air:Fuel Sensor Diagnostics (NEW)

Over the last ten years, four wire air:fuel sensors have slowly started to replace oxygen sensors. While these sensors look similar to a conventional oxygen sensor, operation and testing techniques are significantly different. This class will discuss operation and testing of air:fuel sensors used by Toyota, Nissan, Honda, and Subaru. The class will discuss in detail air:fuel sensor operation and air:fuel sensor testing. Testing techniques will include the use of a labscope, scan tool (fuel trims and rear oxygen sensor), and a gas analyzer.

Presented by: [John Thornton](#)

ID	Date	Location
T102	September 2, Thursday	McHenry County College
T103	October 7, Thursday	Morton College
T104	November 4, Thursday	Moraine Valley Community College
T105	December 2, Thursday	Oakton Community College

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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.

Those tips can be e-mailed to epa.repair.outreach@illinois.gov.

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