

eAir REPAIR

September 2010



2002 Chevrolet Malibu Communication Problem

By: *Scott Lettow (Field Trainer) Car-X Associates Corp*

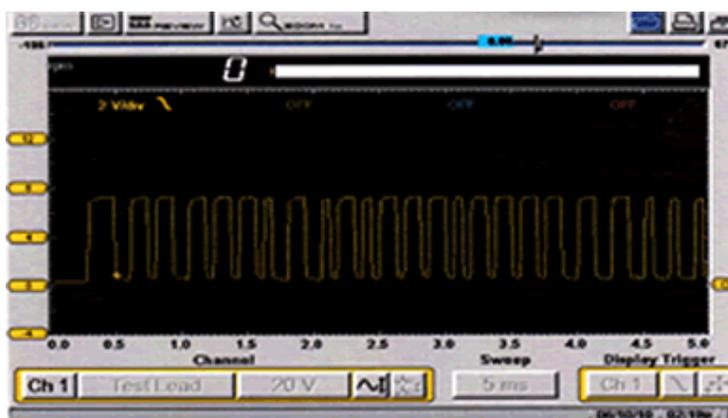
Trying to find a solution is not that easy at times. Byron Skinner owns two Car-X stores in the Chicago suburbs. Byron and his team believe in getting to the finish line with every repair they do. It's plain and simple. They fix the problem even though they may have to go out of their way at times.

They had a 2002 Chevrolet Malibu with the 3.1L engine come in that failed the emissions test because of "no communication." Fred Kline from Byron's Car-X store in Arlington Heights took on this repair. Fred followed the guidelines from the Air Repair article from July of 2004. The article spelled out what to look for in a vehicle that had this condition.

The results of his tests at the DLC were as follows:

- Battery voltage was 12.56 volts with a total voltage drop of .060 volts to Pin #16.
- Total voltage drop from Pin #4 to the negative battery terminal was .022 volts.
- Total voltage drop from Pin #5 to the negative battery terminal was .025 volts.

The following snapshot was taken at Pin #2 with the engine running.



What was unique about this vehicle was that it only failed to communicate at the testing station. Fred was able to communicate utilizing several different scanners and code readers. He went as far as to pull the scanner's batteries out and run the tool directly off of the vehicle's power. The other question was how does he know if he fixed it since there was not a communication error with any other scan tool or code reader?

Fred discovered after several attempts with different scan tools and after trying to duplicate the problem, he not only lost communication with the PCM, but he also lost it with the IPC, BCM, EBCM, SDM, and radio. By the time he grabbed his meter, it was back to normal.

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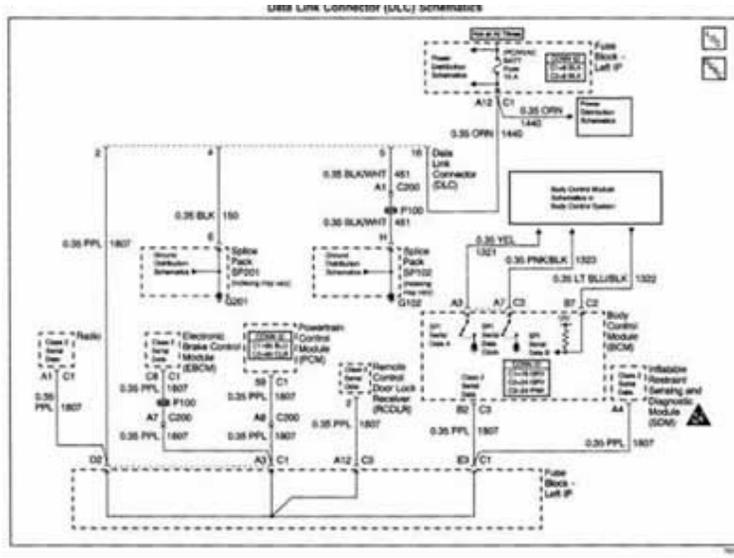
Got a Case Study

- » Share your case study and tips.

Helpful Links

- [Air Repair Newsletter Archives](#)
- [Test Station Locations](#)
- [Check Station Wait Times](#)
- [Repair Shop Report Card](#)
- [OBDII Pass / Fail / Reject Criteria](#)

This vehicle uses a "star" bus configuration as seen below. The logic was that if he lost communication with all the modules on the bus, the problem must be between the DLC and the splice on the left side of the instrument panel.



Fred rewired a new bus line from the DLC to the splice and tried to get it to act up. Since he could not duplicate it, he ran it over to the testing station and it passed. It took a lot of time and effort on Fred's part to fix this car because of what it took to duplicate the problem. Confirming PIN values at the DLC only led him in the direction that nothing was wrong. It took time and commitment on his part to make sense of what the problem really was.

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

From: *Automotive Service Association (ASA) of Illinois*

ASA is hosting the Chicago Area Networking (C.A.N.) Conference on September 24th - 26th in Rosemont, Illinois. A variety of topics will be covered for both technicians and shop managers.

For details and registration information, www.asacanconference.com.

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Diagnose Emissions Failures with Simple Tools

By: *Tony Barcham from Car-X Auto Service*

A 2001 Isuzu Rodeo came in with a check engine light on that failed an emissions test with a P0440. I didn't have a TECH 2 or any other scanner that would provide detailed data or bidirectional control to activate the solenoids. I started by smoking the system from the engine and by the filler neck, but I didn't see any smoke coming out. I checked all the solenoids manually, and they were working fine.



I decided to check the FTPS (Fuel Tank Pressure Sensor) signal at the PCM, and my voltmeter started to read 4.3 volts. According to FTPS testing procedure KOEO, the sensor should read around 1.5 volts.



Utilizing my flex hands and arms, I reached the sensor on top of the fuel tank. By touching the connector, the voltage jumps from 4.3 to 1.4 volts. After replacing the FTPS and the pigtail, and by driving the car, all monitors set to ready with no problems.

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Thanks for Your Support

From: the Illinois EPA Repair Industry Outreach Team



Jim Butcher, Automotive Technology Instructor (left), Ken Zanders, Outreach Instructor (center), Dominic Pacenti, Program Coordinator- Automotive Technology Technical Center of DuPage (right).

Many thanks for your support of the Outreach Training Program and the use of your facility.

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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



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
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
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
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
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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Dashboard Tip of the Month

From: the Illinois EPA Repair Industry Outreach Team

Keep Your Profile Updated

Everything we do now is by email. Make sure we have your current email address. Simply click on [Update Profile](#) at the top of the page to check your profile information.

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Articles Needed for eAir Repair

From: the Illinois EPA Repair Industry Outreach Team

Got a Case Study

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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