

# The Analyzer

WISCONSIN VEHICLE INSPECTION PROGRAM

WIVIP HELP LINE  
(866)623-8378

Volume 1, Issue 9

August 2016

## Technicians Given Strategies to Achieve Success on New L1 Test

On Thursday, July 14<sup>th</sup>, over 20 technicians attended a seminar to review the changes to the ASE L1 test and discuss the new Composite Vehicle used for the test questions. The seminar was conducted by Carl Hader, head of the Grafton High School Technology & Engineering Department. Carl is well-known for his leadership of Grafton High School's NATEF Automotive Program, which has won numerous state and national awards and competitions.

Among the topics discussed were changes to the Composite Vehicle. The new Composite Vehicle Type 4 was introduced in 2016 and incorporates the technological enhancements that are found in more advanced OBDII systems. It has been specifically engineered to include a complete OBDII diagnostic system that is equipped with the sensors and actuators used in many manufacturers vehicles. Understanding the changes to the Composite Vehicle will help technicians prepare for taking the ASE L1 Test. The L1 test is one of the only certifications used in Wisconsin for "recognition" of your repair facility for emission related repairs for cost waivers.

Information on the new ASE L1 test can be found at <http://www.ase.com/Test-Prep-Training.aspx>.



Carl Hader gave a presentation on changes to the new L1 test to over 20 technicians at a WiVIP sponsored seminar.

### TOP 10 DTC Codes

DTC	DTC Description	Percent
P0420	Catalyst System Efficiency Below Threshold (Bank 1)	5.7
P0300	Random/Multiple Cylinder Misfire Detected	4.24
P0171	System too Lean (Bank 1)	4.11
P0442	Evaporative Emission Control System Leak Detected (small leak)	3.66
P0455	Evaporative Emission Control System Leak Detected (gross leak)	3.37
P0174	System too Lean (Bank 2)	2.27
P0440	Evaporative Emission Control System Malfunction	1.99
P0401	Exhaust Gas Recirculation Flow Insufficient Detected	1.96
P0301	Cylinder 1 Misfire Detected	1.9
P0141	O2 Sensor Heater Circuit Malfunction (Bank 1 Sensor 2)	1.89

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## TECH TIPS

## The Case of the 2000 Chevrolet Express 1500

*A Case Study provided by Brad Schaefer, owner of Schaefer's Auto Repair, Slinger, Wisconsin*

This is an interesting case study that began as a vehicle with multiple emission inspection rejects for EVAP, CAT AND EGR unset monitors. The 2000 Chevrolet Express 1500 had 122,216 miles on it and the owner indicated that there had not been any repairs performed in over a year. Between the first two rejects, the vehicle had been driven over 400 miles through various driving conditions.



***Correct coolant and engine temperatures are common enabling criteria necessary for setting readiness monitors.***

Since the vehicle was presented with unset readiness monitors, the first step was to evaluate the pertinent data for systems that could prevent the monitors to run. We found that the coolant temperature was not getting any higher than 143 degrees. The original equipment (OE) thermostat should not open until 195 degrees. EGR and CAT readiness monitors are very temperature dependent and will not run if the computer is not seeing the proper temperatures.

The vehicle's thermostat was replaced and the coolant system was flushed. After repairs, the coolant temperature was getting hotter, but vehicles gauge was not matching what the scan tool was seeing for temperature. It was determined that the coolant temperature sensor was not working properly so it was replaced. Once this repair was completed, everything temperature related was resolved and working properly.

The vehicle was driven to reset the readiness monitors but the CAT and EGR monitors would still not run. All scan data on the vehicle looked ideal for the readiness monitors to run so a hard computer reboot was performed and the vehicle sat overnight for a cold start. In the morning, the vehicle was driven again over the drive trace specific to that vehicle's make and model. The CAT and EVAP monitors were set; however now a pending code P0446 related to the fuel tank pressure sensor was discovered. We ran flow chart to find the sensor failed and was causing the pending EVAP system code. The EVAP readiness monitor will not run with this pending issue. The vehicles fuel tank pressure sensor was replaced and we ran a service test on the EVAP system to confirm it was working properly.

Once the vehicle's readiness monitor issues were resolved and the vehicle passed the inspection.

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Case Study continued from page 2

## When a Drive Trace Isn't Enough to Reset Monitors

Vehicles with readiness issues don't always exhibit drivability symptoms. In some readiness monitor cases, it's as simple as the motorists driving habits preventing monitors from completing such as lack of varying speeds through city and highway driving conditions. Those cases call for a review of the vehicle specific drive pattern with the motorist. However, sometimes there's actually an underlying problem or problems with the vehicle that are blocking monitors from setting. In these instances, the experienced technician will need to follow a diagnostic strategy to uncover what is preventing the monitors from setting.

The readiness monitor pre-conditions of this vehicle, as with most vehicles, require proper operating temperatures. One of the more common issues preventing monitors to run are faulty thermostats. While this is an easily repairable item, it is often overlooked. In the case of this vehicle, in addition to a bad thermostat, the coolant temperature sensor needed to be replaced for the vehicle to achieve proper temperature. Once the temperature issues were resolved, the fuel pressure sensor DTC was pending. Sometimes the road to repairs becomes a road to discovery! When all the issues were addressed . . . the vehicle passed.

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## Opus Service Technician Tips:

**Printer jamming?** Try putting something underneath the front of the printer tray. The added pressure often helps with printers that frequently jam! Doing that in conjunction with making sure the roller above the printer tray is clean should take care of most of your printing problems. Whatever you do... **DON'T USE COMPRESSED AIR!**

**Fingerprint Scanner not scanning?** If you haven't experienced any finger trauma recently, it could be as simple as a dry finger! I like to swipe my finger across my forehead to ensure that some natural oils are helping the scanner register my fingerprint.

**Whom Should I Call?** If you have a **service issue or need supplies**, call the Opus Help Line number, 866-623-8378. If you have **registration renewal questions**, call the New Berlin Opus Office at 1-262-641-5217 (M-F: 8 a.m. – 5:00 p.m.) If your **customer has emission related questions**, refer them to the Opus Help Line at 866-623-8378 or the program website at [www.wisconsinvip.org](http://www.wisconsinvip.org).

***Need to Find Closest Emission Test Locations?***

***[www.wisconsinvip.org](http://www.wisconsinvip.org)***

# The Analyzer

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## Testing Tips

### Vehicle's Registered In Another Jurisdiction Requiring Emission Inspections

If your customer's vehicle is registered in another state that has a vehicle inspection requirement and we are able to test it, you should inspect the vehicle so the motorist can provide his or her jurisdiction with proof of inspection compliance.

Things to keep in mind:

- If the plate fits in the space allowed, you can enter the plate number in the plate field. If it is too long, you may use NOPLT.
- Use the county that your facility is located in for that data field.
- Complete the inspection as normal and provide the motorist with their vehicle inspection report. The customer will be required contact their state emission program for further instructions on how to get test results to them.
- For detailed program and contact information for other states that have vehicle emission inspection requirement, visit the OBD Clearinghouse website: [2016 Jurisdiction Report](#)

Vehicles can be tested up to 180 days prior to their license plate expiration

### Wisconsin Vehicle's Temporarily Outside Testing Region

If your customer's vehicle will be out of the testing area when the vehicle's registration renewal is due, there are several options for your customer:

- They can get their vehicle inspected up to 180 days ahead of time at one of the southeastern Wisconsin emission inspection facilities. This is exceptionally helpful if your customers leave the state in winter for warmer weather.
- The motorist can get their vehicle inspected out of state and fax the test report to Opus at 262-641-5095. Opus will record the vehicle's out-of-state test results so the motorist can complete the registration renewal process or meet the change of ownership test requirement.
- If the vehicle is not in a jurisdiction that performs emission inspections and will be out of the seven county testing region for an extended period of time, they can call 866-623-8378 and request a temporary exemption. This allows the motorist to renew their vehicle's registration and complete the emission test requirement when the vehicle is back in the testing area.

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### Quick Tip: No Communications With The Vehicle?

Concerns of no communication with the emission analyzer can be a result of spread pins at the vehicle's Data Link Connector. Spread or damaged pins may be a result of aftermarket monitoring devices such as insurance monitors.

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# Introducing the Repair Book

*Fast, Easy and Good For Business*

*It is now easier for your facility to receive credit for repair activity of vehicles that failed their emissions inspection. Once registered, repair technicians can access the Repair Book reporting website and log emission-related repairs. Your success rate in repairing vehicles will be posted on the [www.wisconsinvip.org](http://www.wisconsinvip.org) website. It is a great way to inform past, current and future customers about your success in performing emission-related repairs.*

## STEP 1: IS YOUR BUSINESS ALREADY REGISTERED WITH THE WISCONSIN VEHICLE INSPECTION PROGRAM?

- a) Verify if your business is already registered with the program. The easiest way to check is to look at the Inspection Facility, Recognized Repair Facility or Non-Recognized Repair Facility listings on the program website at [www.wisconsinvip.org](http://www.wisconsinvip.org).
- b) If your facility is already registered, go to step 2.
- c) If your facility has not registered with the program, complete the profile form found on the program website in the "Recognized Repair Facilities" section.
- d) Once registered, your facility's repair activity can be reported on [www.wisconsinvip.org](http://www.wisconsinvip.org), which is the official program website. The more effective you are at repairing vehicles that had failed the emission test, the better your repair score!

**Repair Grade: 100%**

### Sample listing:

Facility Name	Address	City	Phone	Zip Code	REI	Web Site
YOUR GARAGE NAME	123 MAIN ST	ANYTOWN	(XXX) XXX-XXXX	53XXX	100.0	url hyperlink

## STEP 2: TECHNICIAN REGISTRATION FOR THE REPAIR BOOK?

- a) At the sign-in screen, select register.
- b) Choose the station you are currently employed and select continue.

**NOTE: If you change locations, please complete an updated Emission Repair Facility profile and submit it to Opus.**

- c) Complete the registration information.



Wisconsin Repair Book

Tuesday, Dec 30, 2014



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First Name

Job Title

User ID

Middle Name

Email

Password

Last Name

Verify Email

Re-enter Password

Do you own an ASE L1 (or Higher) or WISETECH certification?

Password must be between 6 and 10 characters

Password must be between 6 and 10 characters

# Introducing the Repair Book

## STEP 3: DATA ENTRY PROCESS FOR EMISSION RELATED REPAIRS

Certified Repair Info			
Owner Repair?	Yes <input type="radio"/> No <input type="radio"/>	Total Parts Cost	Total Labor Cost
For three dollars and thirty cents enter 3.30. For three hundred and thirty dollars enter 330			
The following should be completed only if NOT repaired by owner:			
Work Order #	Facility of Person Performing Repair	Apply to REI? <input type="checkbox"/>	
Phone#			
City	State	Zip	
Repair Date			

- Complete the information requested.
- Select whether it is an owner repair.
- Enter parts and labor cost. (Example: For three dollars and thirty cents, enter 3.30. For three hundred and thirty dollars, enter 330.)
- If not the owner, complete the section requesting more information on repairs.
- Indicate whether you want the repair record applied to your Repair Book (REI) Score.
- Select the repairs performed on the vehicle.

Vehicle Repair Data							
<b>For reinspection or waiver qualification, the person performing the repairs must complete this form. Please place one "X" per item in the box to indicate which component has been (A) repaired, (B) replaced, or (C) repairs were recommended but not performed.</b>							
1. Air Filter Element	A <input type="radio"/>	B <input type="radio"/>	C <input type="radio"/>	None <input type="radio"/>	15. Air Injection System	A <input type="radio"/>	B <input type="radio"/>
2. Thermostatic Air Cleaner System	A <input type="radio"/>	B <input type="radio"/>	C <input type="radio"/>	None <input type="radio"/>	16. Positive Crankcase Ventilation System	A <input type="radio"/>	B <input type="radio"/>
	C <input type="radio"/>	None <input type="radio"/>				C <input type="radio"/>	None <input type="radio"/>

- Once the data is entered, select continue.
- If you see the screen below, you have successfully entered the data.

<b>Success</b>
Congratulations! The repair data has been saved! This data may be used in the determination of your facilities REI. <span style="float: right; border: 1px solid black; padding: 2px;">Continue</span>

**QUESTIONS? 262-641-5217**



5470 South Westridge Dr  
 New Berlin, WI 53151  
 262-641-5217 (voice)  
 262-641-5095 (fax)

## EMISSION REPAIR FACILITY PROFILE

(please circle one)	
<b>UPDATE</b>	<b>NEWLY REGISTERED</b>

If you wish to register your repair facility with the vehicle inspection program or need to update your business record, please provide the following information for your repair facility. Mail the completed form with technician certifications to address above, or fax it to 262-641-5095, or scan to sue.krueger@opusinspection.com. A recognized repair facility is one that employs at least one technician with ASE L1 certification, WISETECH training, or other equivalent training. Please attach copies of documentation for each technician's training or certifications.

FACILITY INFORMATION:			
Facility Name:	_____		
Street Address:	_____		
City:	State:	ZIP:	_____
Main Business Phone #: ( ) _____	E-Mail:	_____	
Owner or Manager:	County: _____		

TECHNICIAN INFORMATION						
Name:	<i>(First Name)</i>			<i>(Last Name)</i>		
_____						
<b>Certifications:</b> <small>Circle &amp; Indicate Expiration Date</small>	ASE L1	<small>Expiration Date</small> _____	ASE L2	<small>Expiration Date</small> _____	WISETECH	<small>Date Graduated</small> _____
_____						
Other: (Explain) _____						

**DIESEL CERTIFICATIONS:** Please indicate if you have diesel certification for a specific make (Honda, Ford) of vehicle(s) you are certified to work on. List all that apply and attach diesel certification documentation to this application:

TECHNICIAN INFORMATION						
Name:	<i>(First Name)</i>			<i>(Last Name)</i>		
_____						
<b>Certifications:</b> <small>Circle &amp; Indicate Expiration Date</small>	ASE L1	<small>Expiration Date</small> _____	ASE L2	<small>Expiration Date</small> _____	WISETECH	<small>Date Graduated</small> _____
_____						
Other: (Explain) _____						

**DIESEL CERTIFICATIONS:** Please indicate if you have diesel certification for a specific make (Honda, Ford) of vehicle(s) you are certified to work on. List all that apply and attach diesel certification documentation to this application:

**VERIFICATION**  
 As owner/manager of this repair facility, I verify that my facility is actively engaged in the automotive repair business and that information provided is accurate. I understand that it is my responsibility to notify the Wisconsin Vehicle Inspection Program if my profile information changes.

_____	Date										
Repair Facility Owner/Manager											
<b>OFFICIAL USE ONLY:</b> Recognized:    YES    NO                      Registration Number: <table border="1" style="display: inline-table; border-collapse: collapse; text-align: center;"> <tr> <td style="width: 15px; height: 15px;"> </td> </tr> </table>											