



The Analyzer

THE WISCONSIN VEHICLE INSPECTION PROGRAM

WIVIP HELP LINE
(866) 623-8378

Volume 1, Issue 16

November 2018

Common Problems Seen By TAC Technicians

Over 20 repair technicians attended a free seminar presented by John Haunfelder on Tuesday, September 11th. John is the former owner of Jerry's Automotive Service, one of the original Technical Assistance Centers for the program. He is an ASE master technician with L1 (Advanced Engine Performance), L2 (Diesel) and L3 (Hybrid) ASE certifications, and has many years of experience successfully diagnosing and repairing vehicles that have failed an emission inspection, or are having difficulties completing readiness monitors.

The seminar covered case studies from vehicles receiving diagnostic assistance after repeated emission failures and rejects. John also shared some of the common problems that the TACs encounter, and provided diagnostic and repair strategies that could save technicians time and money.

The inability to complete readiness monitors is one of the common reasons for a vehicle to receive TAC assistance. Most vehicles should be able to set enough monitors to pass an emission test after being driven with a combination of city and highway driving. If a vehicle is driven over 100 miles of city and highway driving while attempting to reset monitors, it indicates that the vehicle more than likely needs repairs.

Insights into Vehicles with Multiple Readiness Monitor Rejects

The enabling criteria for setting readiness monitors can be elusive and it can take a bit of detective work to pinpoint what issue is preventing the monitors from setting. Some of the common issues that prevent monitors from completing include:

- Marginal sensors that pass a monitor on one trip but fail on the second won't set a MIL light or pass a monitor.
- Sluggish oxygen sensors, weak catalytic converters, dirty MAF sensors, marginal engine thermostats, and weak charging systems will impact the monitor's ability to complete.
- The vehicle owner's driving habits can impact the monitors from completing. Extended high speed or city only driving conditions could factor in monitor setting.
- Make sure the fuel tank is kept between 1/4 and 3/4 full for the evap monitor.
- Check the driving trace. Not all driving traces are the same and certain manufacturers have traces that can be challenging.
- Fuel trims that are higher than normal but not bad enough to set a code will suspend monitors.
- Temperatures also play a factor for completing the monitors. Colder temperatures will suspend certain monitors such as the Evaporative, O2 and Catalyst monitors.

Inside this issue:

Common Problems Seen By TAC Technicians	1
Common Problems Continued	2
Defeat Devices & Software	3
Emission Facility Repair Profile	4
Emission Repair Data Entry	5

Continued on Page 2

Volume 1, Issue 16

Case Study: 2003 Ford Escape 3.0 Automatic, 168k Miles, Readiness Monitor Issues

The owner had the vehicle recently repaired for DTC—P0420 catalyst efficiency. The repairs included the replacement of three catalytic converters, four oxygen sensors, and a thermostat. The invoice was over \$3600. The TAC diagnostic technician drove the vehicle while monitoring the scan data. After one mile of driving, the Bank 2, Sensor 1 oxygen sensor flat lined similarly to the Bank 1, Sensor 2 O2 sensor. Further inspection found that the Bank 2 O2 sensor leads had been swapped. Once the diagnostic technician corrected the bank 2 O2 wiring, the vehicle was driven again and the monitors were set within three miles.

In this instance, it was an incorrect repair issue that prevented the monitors from completing. Don't overlook the basics, such as an incomplete or incorrect repair such as the swapped wiring between Bank 1 and Bank 2 O2 sensors.

TAC Regulars—Catalyst Failures

In the case study for the 2003 Ford Escape, the vehicle had failed for a catalyst efficiency code and had the repairs performed to address that DTC. One of the more common reasons for a TAC referral are vehicles failing for catalyst DTCs. The following were some observations for vehicle's receiving assistance for catalyst DTCs:

- Catalytic converter replacement should never be done until engine integrity and fuel control can be verified.
- A good high-pressure smoke machine is priceless in checking exhaust leaks in front of converters which can set false codes. Leaks can occur in exhaust manifolds, pipe to manifold and pin hole rust leaks.
- Verify good O2 sensor operation. Depending upon the age, it may be beneficial to replace the O2s at the time of converter replacement.
- Always use good quality converters. It may look the same or fit the vehicle but it doesn't mean it will do the intended job.

If a vehicle failed an emission inspection for a catalyst DTC, the catalyst monitor must be completed for the subsequent test. Engine temperature, load, throttle position, the air/fuel ratio, and closed loop status are among the conditions that will be monitored before the catalyst will run.

Set Yourself Up For Success

The most successful automotive technicians share common traits that include:

- Development of a diagnostic strategy that is updated regularly to address new technology.
- Utilizing all resources at their disposal, including IATN, Identifix, Alldata, Mitchell, OBD Clearinghouse and countless manufacturer's websites. Archived repairs can also save time but are never a replacement for proper training.
- Identifying TSBs related to the issue and checking for software updates.
- Keeping up-to-date with training as technology changes frequently.
- Checking equipment purchases carefully and determining what works best. There is a lot of equipment out there but it is only beneficial if it is used.

If you would like to see the entire PowerPoint, you can contact the Opus New Berlin office for assistance in registering for website access to the training materials. Please call 262.641.5217 for a User ID and password.

Source: Presentation Materials from John Haunfelder on 9.11.18

Technical Assistance Centers:

Company	Address	City	Zip Code	Phone
AUTO ANALYZERS	8404 W GREENFIELD AVE	WEST ALLIS	53214	(414) 476-0077
JERRY'S AUTOMOTIVE SERVICE LLC	W229 N2467 COUNTY HWY F	WAUKESHA	53186	(262) 542-2600
SCHAEFERS SERVICE CENTER INC	1130 E COMMERCE BLVD	SLINGER	53086	(262) 644-8418
SUNSET AUTO SERVICE	1194 FOND DU LAC AVE	SHEBOYGAN FALLS	53085	(920) 467-6890

EPA and DOJ Settle with Derive Systems over Vehicle Emissions Control Defeat Devices

Source: USEPA News Release 9.24.18

In September, the U.S. Environmental Protection Agency (EPA) and U.S. Department of Justice (DOJ) announced a settlement with Derive Systems (Derive) to address the sale of approximately 363,000 aftermarket products designed to defeat the emissions control systems of cars and trucks in violation of the Clean Air Act.

Over a span of multiple years, Derive sold products, including custom engine tuning software and parts, online and at distributors across the nation under the brand names of "Bully Dog" and "SCT" for use in many types of gasoline and diesel-fueled cars and trucks. Under the terms of the settlement, Derive will spend approximately \$6.25 million to ensure future compliance and pay a civil penalty of \$300,000.

"Manufacturers and sellers of automotive emissions control defeat devices should stand up and take notice of this settlement," EPA Office of Enforcement and Compliance Assurance Assistant Administrator Susan Bodine. "EPA will protect air quality by vigorously enforcing the Clean Air Act's prohibition on these devices."

"For decades, Americans have worked hard to significantly reduce harmful emissions from cars and trucks. Tremendous progress has been made and the air is much cleaner today across the nation. Unfortunately, not everyone is playing by the rules. Today's settlement will bring Derive Systems and its aftermarket products into compliance with the Clean Air Act, and demonstrates to other manufacturers that products designed to unlawfully thwart vehicle emissions control systems will not be tolerated," said Acting Assistant Attorney General Jeffrey H. Wood for the Justice Department's Environment and Natural Resources Division. "The Department of Justice will continue to work with our partners at EPA to hold companies who violate environmental laws accountable, and to protect clean air for all Americans."

Derive manufactured and sold custom tuning software designed to access and overwrite the original vehicle manufacturer's software. Vehicle manufacturers design vehicle software to reduce air pollution, monitor the vehicle's on-board diagnostics of emissions controls and otherwise comply with the Clean Air Act. Derive's software enabled the user to remove emission control components that reduce tailpipe emissions, including catalysts, diesel particulate filters, exhaust gas recirculation systems, elements of on-board diagnostic systems, and other elements of a design certified by vehicle manufacturers to comply with the Clean Air Act.

In addition, Derive sold parts or components for motor vehicles and motor vehicle engines that bypass, defeat, or render inoperative elements of design that were installed by the vehicle or engine manufacturer to comply with Clean Air Act emission standards. These handheld products—commonly known as "tuners"—enabled the user to easily turn off emission controls installed and certified by vehicle manufacturers to comply with the Clean Air Act.

For more information on this settlement: [//www.epa.gov/enforcement/derive-systems-clean-air-act-settlement](http://www.epa.gov/enforcement/derive-systems-clean-air-act-settlement)

What the law requires:

Section 203 (a)(3)(b) of the Clean Air Act (CAA), 42 U.S.C. Sec. 7522(a)(3)(b), prohibits the manufacture, selling, or installation of any device that bypasses, defeats, or renders inoperative a required element of the vehicle's emissions control system.

Manufacturing, selling or installing Emission Defeat Devices and/or Software is subject to a \$4,454 fine for individuals and \$44,539 for dealerships and manufacturers. For individuals, each tampered component is a separate violation. This can result in multiple fines for one tampered vehicle. For dealers and manufacturers, each vehicle or engine is a separate violation.



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

EMISSION REPAIR FACILITY

PROFILE

(please circle one)

UPDATE NEWLY REGISTERED

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:	(First Name)	(Last Name)					
<hr/>							
Certifications: Circle & Indicate Expiration Date	ASE L1	Expiration Date	ASE L2	Expiration Date	WISETECH	Date Graduated	School
Other: (Explain)	<hr/>						

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>						
Certifications:							
Circle & Indicate Expiration Date	ASE L1	Expiration Date	ASE L2	Expiration Date	WISETECH	Date Graduated	School
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.

Repair Facility Owner/Manager

Date

OFFICIAL USE ONLY:

Recognized: YES NO

Registration Number:



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 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.
- 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, 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** Sign In 

Tuesday, Dec 30, 2014

First Name Middle Name Last Name
Job Title Email Verify Email
User ID Password Re-enter Password
Password must be between 6 and 10 characters
Password must be between 6 and 10 characters

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

Introducing the Repair Book

STEP 3: DATA ENTRY PROCESS FOR EMISSION RELATED REPAIRS

Certified Repair Info					
Owner Repair?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	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					

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

Vehicle Repair Data							
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.							
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	C <input type="radio"/>	None <input type="radio"/>

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

Success	
Congratulations! The repair data has been saved! This data may be used in the determination of your facilities REI.	
<input type="button" value="Continue"/>	

QUESTIONS? 262-641-5217