

Resolving Readiness Monitor Issues A Job for CSIs (Clever Service Individuals)

A customer recently brought a 2003 Ford Focus, (SE 2.0L, 110 HP L4(P) Gas-F1-N) into the Technical Assistance Center after multiple readiness monitor rejects. In reviewing the two previous rejects, none of the non-continuous monitors had been set.

Talk to your Customer

The first step in the analysis was to get as much information as possible from the customer concerning the vehicle. Since it was not a flex fuel vehicle, it was verified that the motorist had not been using E-85 fuel, which can cause problems with readiness monitors. Additionally, a few questions were asked about what type of driving habits the customer had. This could be important for some monitor that require higher speeds to set.

Are there TSBs or Recalls?

The next step was to determine whether there were any Technical Service Bulletins or Recalls for this vehicle. In this vehicle's case, there was a TSB (TSB 06-7-5) addressing an incomplete readiness status. The vehicle required a re-flash from the dealership, and the problem was resolved.

Some good sources for TSB and Recall information include:

OBDII Clearing House: <http://www.obdclearinghouse.com>

International Automotive Technician Network (iATN) <http://www.iatn.net/>

National Highway and Traffic Safety Administration (NHTSA) <http://www.nhtsa.dot.gov/cars/problems/tsb>

Without any TSBs or Recalls, other steps would have been necessary to uncover what is causing the monitors to remain unset.

What is the enabling criteria?

Enabling criteria are specific conditions that must occur for monitors to be set. To illustrate some of the conditions necessary, here's a look at the drive trace information for the 2003 Ford Focus.

Notes:

1. This drive cycle executes all monitors and clears Ford P1000 Code.
2. See also procedures for individual monitors.
3. Outside 40-100 degrees F., or above 8000 feet, the EVAP monitor must detect these conditions twice before it can be bypassed.

Conditions:

1. Fuel tank should be 1/2—3/4 full; 3/4 full is preferable.
2. Operating the throttle smoothly during cruise or acceleration will minimize the time required for monitor completion.

Steps:

1. Connect a scan tool to the data link connector. Turn the key ON with the engine OFF. Cycle the key OFF, than ON. Clear all DTCs and reset the PCM.
2. Monitor the following PIDs: ECT, EVAPDC, FLI (if available) and TP MODE. Start the vehicle without returning to key OFF.
3. Idle the engine for 15 seconds, then drive 40 mph until the ECT is at least 170 degrees F.
4. If the IAT is between 40-100 degrees F., go to step 4, If not, complete each of the following steps. Note that Step 14 is required to bypass the EVAP monitor and clear the P1000 code.

(There are further steps to Step 15)

In looking at the above example, there are several items that are left unsaid but still critical to success. Correct temperature is important in this process. What affects temperature?

- ◆ Thermostats, that are not working properly can prevent the vehicle from meeting this criteria. Use a temp gun to make sure coolant temperature is correct and matches scan data.
- ◆ Check to make sure the radiator is topped off and the overflow tank has additional antifreeze to the appropriate level.
- ◆ The ECT & IAT should be within 7° of one another at a cold start.
- ◆ The air box should be intact.

The fuel level is also important. Is the fuel gauge working properly and is it within the state parameter?

Speed is also an important factor. Is the speedometer and the VSS working? Sometimes shifted fuel trims have been known to cause issues with monitors and may not necessarily illuminate the MIL.

Continued from page 1

Braking might also be important when enabling criteria indicates a speed sequence. If the brakes are not operating properly, then this also could be a factor to prevent monitors from setting.

Are there pending codes?

Even when the MIL is not illuminated, a pending code can stop monitors from setting. If possible, check MODE 6 data PIDs. They may include 1 trip failures.

What is the sequence for readiness monitors to set?

Built within the OBD strategy of vehicles is a specific sequence for monitors to run. The O2 monitor is usually the lynchpin and without it setting, the others will not run. Therefore, it should be part of your diagnostic strategy to verify that the O2 system is working properly when working on a vehicle with readiness monitor issues.

Performing the Drive Trace

After you have followed the preceding steps and performed necessary repairs, it is time to drive the vehicle. Unless a dyne is available, then two people are recommended. Use vehicle specific enabling criteria along with the drive trace. The TACs have this information.

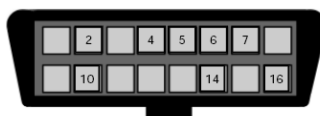
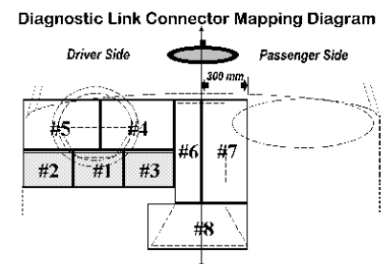
Vehicles with unset monitors can be some of the more challenging problems to diagnose and fix. Just like the CSI detectives, sometimes things aren't always as they seem. Keep an open mind, venture to look outside of the box and utilize all resources available to you to diagnose the problems

A Look At the OBD Clearing House Website

There are many internet resources available to obtain information on vehicles. One site that provided free information for the 2003 Ford Focus was the OBD Clearing House web site at www.obdclearinghouse.com. In addition to illustrating the DLC location, it also provides links to documents, such as the TSB related to the readiness monitor issues. The illustration below is an example of the format and information contained on the website.

Vehicle OEM Database :: View Vehicle

Vehicle Specific Information
 Manufacturer: Ford
 Model Year: 2003
 Vehicle Model: Focus
 EPA DLC Quadrant Location:
 DLC Connector Pin Out:



Engine: L4-2.0L SOHC VIN P
 Communication Protocol: Unknown Protocol

Legend: - Preferred Connector Location ↓ - Vehicle Centerline

Body Style: Sedan
 Displacement (liters): 2.3
 Number of Cylinders: 4
 Transmission: Either
 Fuel Type: Gasoline
 Communication Protocol: 11-bit CAN

INCOMPLETE I/M READINESS STATUS	TSB 06-7-5
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DLC Location
Documents

* INCOMPLETE I/M READINESS STATUS TSB 06-7-5

FORD:
 2003 Focus

ISSUE
 Some 2003 Focus vehicles may exhibit incomplete inspection/maintenance (I/M) readiness status during state inspection.

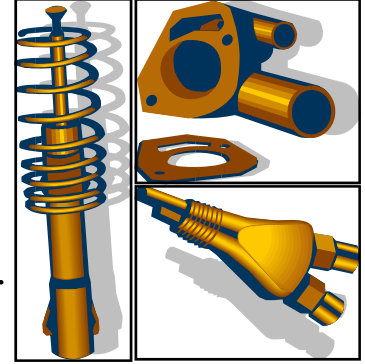
ACTION
 If the vehicle exhibits this concern reprogram the powertrain control module (PCM) to the latest calibration using WDS release B42.2 and higher. Calibration files may also be obtained at www.motorcraft.com.

WARRANTY STATUS: Eligible Under Provisions Of New Vehicle Limited Warranty Coverage And Emissions Warranty Coverage

OPERATION	DESCRIPTION	TIME
060705A	2003 Focus: Check Diagnostic Trouble Codes And Reprogram The Powertrain Control Module (Do Not Use With 12650D, 12650D84)	0.4 Hr.

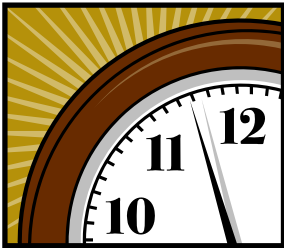
DEALER CODING	CONDITION CODE
BASIC PART NO. RECALEM	04

Trouble Finding A Part?



The following is a list of vendors that carry hard-to-find parts. If your regular supplier doesn't have the necessary part you are looking for you may wish to try one of these vendors:

Help Parts	1-800-544-4357
Belmar International	1-800-926-2272
Discount Smog Parts	1-866-965-0912
Payless 4x4	1-800-345-4292
Quality Auto Part.Com	1-800-505-5838



New Hours At The Technical Assistance Centers

Effective April 5th, the Technical Assistance Centers will be open during the following hours:

Monday, Tuesday, Thursday, Friday: 8:30 a.m.—5:30 p.m.

Saturday: 8:00 a.m.—12:00 p.m.

Technical Assistance Centers are closed Wednesdays, Sundays and Holidays.

Transmissions And Emissions

Motorist's whose vehicles fail for a transmission DTC often question why the failure would be emission related. While some might not associate transmissions with emissions, a vehicle's transmission and related components have a large impact upon the vehicle's emissions because it affects the engine load.

The OBDII system test determines whether there is a malfunction and/or deterioration of the components that control the vehicle exhaust-emissions levels. If this occurs, a DTC, or Diagnostic Trouble Code, is set in the Power Control Module (PCM). A failure occurs when there is a malfunction with the OBDII equipment including the on board computer and related wiring, or when an emissions related component has failed (such as transmission components), causing the vehicle's exhaust emissions to be 1 1/2 times the allowable emissions for the vehicle, as determined by the manufacturer.

If the MIL is commanded on for a transmission code, it is emissions related. Why? The transmission controls the amount of power going from the engine to the wheels. The engine of a vehicle with a malfunctioning transmission will have to work harder to provide the same amount of vehicle speed. A harder working engine will require more fuel which will result in higher emissions.

A good example of a transmission problem would be a vehicle that will not shift into overdrive. If it was designed to run in overdrive at 2500 RPM while cruising at 65 MPH and now it is running at 4000 RPM while cruising at 65 MPH, then it will be emitting more pollution than if it was operating properly. This would cause the vehicle to exceed the FTP threshold and cause the MIL light to be commanded on.

Transmission code failures cause a vehicle owner to ask many questions. We hope this gives you a simple explanation that you can use to help communicate why the failure is emission related. Remember that any code that causes the MIL to illuminate is an emission related code. The good news? Transmission related repairs not only improve emissions, but also fuel economy!

2010 HOLIDAY SCHEDULE

Monday, May 31	Memorial Day
Monday, July 5th	Independence Day (Observed)
Monday, September 6	Labor Day
Thursday, November 25	Thanksgiving
Friday, December 24	Christmas Eve Day
Saturday, December 25	Christmas Day
Friday, December 31	New Year Eve Day
Saturday, January 1, 2011	New Years Day

**ALL STATIONS ARE OPEN ON STATE FURLOUGH DAYS FOR
TESTING, REGISTRATION AND TITLING SERVICES**

Federal Emissions Warranties

Section 207 (l) of the Clean Air Act specifies that the defect and performance warranty period for light-duty trucks and vehicles and engines manufactured. Emissions repairs for either defect or the performance warranties on the chart below are the responsibility of the manufacturer. During the warranty period, only an authorized repair facility from the manufacturer has the ability to receive reimbursement and approval for the repairs.

Vehicle Model Year	Defect	Performance
1994 & Earlier (For all Tier 0 and Tier 1 vehicles)	All emissions related components for 5 years/50,000 miles	All components and parameter adjustments for 2 years/24,000 miles. All emission control devices or system components for 5 years/50,000 miles.
1995 & Later (For Tier 0 and Tier 1 Vehicles)	All emission related components for 2 years/24,000 miles	All components and parameter adjustments for 2 years/24,000 miles. Certain specified components (Catalyst, ECU and OBD device) for 8 years/80,000 miles.

Please refer to the EPA Environmental fact sheets at the Web sites below on specific details important to consumers and the repair industry.

<http://www.epa.gov/otaq/consumer/warr95fs.txt>

<http://www.epa.gov/obd/warranties.htm>

Training Classes

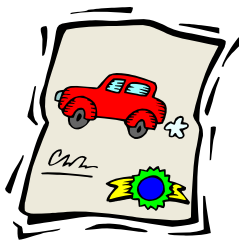
As an ongoing service to the repair industry, The WIVIP Analyzer will publish a list of private and public training centers that offer courses in

automotive repair technology.

The following is just a sampling of training courses available to you.

The WIVIP Analyzer

is not recommending any specific course and would encourage you to contact us at 414-358-3905 if you are aware of other training opportunities.



Joe Paulick
WisDOT
414-881-6241

Other Training

Tim Houghtaling
Automotive Seminars Inc.
800/450-0402

Wells Technical Services
Wells Manufacturing Corporation
920/929-6258
Technician Hotline (Free)
1-800-558-9770 Press 3

AUTOMOTIVE RELATED WEB SITES

WWW.CCAR-GREENLINK.ORG
WWW.I-ATN.COM
WWW.AUTO-TALK.COM
WWW.SAE.ORG/ABOUT/PROGRAM OFFICES/STPO.HTM
WWW.ASTTRAINING.COM

Wisconsin Technical Assistance Hotline

414-358-3905
800-335-5088

The WIVIP Analyzer

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(1-414-881-6241) or
joseph.paulick@dot.wi.gov

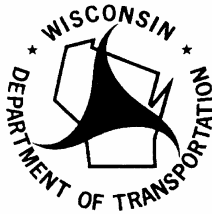
www.wivip.com

The information contained in this publication is for information purposes only.

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Milwaukee Area Technical College
5555 West Highland Road
Mequon, WI 53092
262/238-2449

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Horizon Center
4940 88th Street
Kenosha, WI 53144
262/770-1713



Department of Transportation
Division of Motor Vehicles
MOTOR VEHICLE EMISSION
INSPECTION SECTION
1150 North Alois Street
Milwaukee, WI 53208

Free Informational Seminars

Join us to learn the latest information regarding the Wisconsin Vehicle Inspection Program. In addition, the diagnostic technicians will share with you some of their successful diagnostic strategies to reset readiness monitors.

Please call 414-358-3900 x6117 to reserve your seat.

TAC South: Tuesday, April 27, 2010

Session 1: 3:00 p.m.—4:30 p.m.

Session 2: 5:00 p.m.—6:30 p.m.

TAC North: Tuesday, May 4, 2010

Session 3: 3:00 p.m.—4:30 p.m.

Session 4: 5:00 p.m.—6:30 p.m.

Technical Assistance Center—**South**

561 W College Avenue

Oak Creek, WI 53154

Technical Assistance Center—**North**

7936 W Clinton Avenue

Milwaukee, WI 53223

Hope to see you there!