
**On-Board Diagnostics (OBD) Inspection
and Maintenance (I/M) Program
Implementation for Flexible Fuel
Vehicles (FFVs)**

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Compliance and Innovative Strategies Division
Office of Transportation and Air Quality
U.S. Environmental Protection Agency

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BACKGROUND

The purpose of this document is to provide additional information on the inspection process of alternative fueled vehicles equipped with On-Board Diagnostic (OBD) systems. Specifically, this document provides additional technical information and impacts on the OBD system monitoring capability when flexible fuel vehicles (FFVs) are operated using alternative fuel. Also, it will assist Inspection and Maintenance (I/M) Programs in implementing OBD system checks and educating owners of FFVs.

Alternative fuel vehicles are vehicles that are designed to operate on fuels such as compressed natural gas (CNG), liquid petroleum gas (LPG), ethanol-based and methanol-based fuels in lieu of or in conjunction with traditional petroleum-based fuels (e.g. gasoline or diesel fuel) and can be divided into three categories. Dedicated alternate fuel vehicles operate solely on an alternative fuel. Bi-fuel vehicles can operate on two different fuel types (e.g., a petroleum-based fuel and an alternative fuel) but store the fuels in separate tanks allowing manual switching between fuels. FFVs can also operate on two different fuel types but allow the fuels to mix or blend in a single fuel tank.

For FFVs, the engine system typically monitors the fuel content in the fuel tank to determine the level of alternative fuel versus petroleum-based fuel, and adjust the vehicle/engine calibrations accordingly. Currently, ethanol has been the alternate fuel of choice for FFVs with fuel contents ranging from E0 (0% ethanol, 100% unleaded gasoline) up to E85 (85% ethanol, 10% unleaded gasoline) but this is subject to change due to continued alternative energy research.

On-Board Diagnostics (OBD) systems have been implemented on light-duty vehicles and trucks equipped with Otto-cycle, diesel-cycle and alternative fuel engines since the 1996 model year. The OBD system monitors many emission control and emission-related powertrain components and the vehicle must be operated under specific conditions to enable this monitoring. As a result, state programs that typically required inspection of tailpipe emissions are now relying and implementing diagnostic checks of OBD systems in lieu of tailpipe emissions inspections.

For alternative fuel vehicles, there were earlier concerns during OBD implementation regarding OBD system monitoring capability during alternative fuel operation. These concerns necessitated additional OBD monitoring flexibilities during alternative fuel operation to eliminate the potential of false illumination of malfunction indicator lamp (MIL, "check engine" or "service engine soon" light). Therefore, Federal OBD regulations in 40 CFR 86.1806-05 allowed manufacturers of alternate fuel vehicles to request waivers from OBD monitoring during alternate fuel operation until the 2004 model year (MY). In particular, FFVs are of greater concern since there is no clear indication of a switch from a petroleum-based fuel to an alternative fuel. As a result, the OBD system for FFVs may operate differently from other vehicles including revised OBD system capability and engine calibration when the level of alternative fuel, specifically ethanol, is increased. This is further complicated if the vehicle is operated for an extended period of time or solely on ethanol prior to a state inspection of the OBD system.

This document attempts to outline the universe of certified FFVs, clarify the OBD system capabilities of these vehicles when operated on alternative fuel, and provide recommended procedures to enable proper OBD I/M inspection of FFVs that may have a reduced level of OBD system capability during alternative fuel operation.

The U.S. EPA has coordinated with the automotive industry to develop this list document. The document is separated by manufacturer and by ascending model year starting with MY1996, the first year that full OBD compliance was required, and ending with MY2007 (in some cases MY2008 information was provided and is included, where available). However, it should be noted that all MY2005 and beyond light-duty alternative fuel vehicles are required to have full OBD monitoring capabilities during gasoline and alternative fuel operation since the OBD monitoring flexibilities during alternate fuel operation have been removed. Therefore, MY2005 and beyond FFVs should be fully functional with any fuel type or blend.

If you discover that the information in this document is incorrect or there is information missing, please contact the author, Arvon L. Mitcham, at the information provided on the last page of this document.

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Section A: Chrysler Corporation

Model Year	Model	Displacement & Engine Type / Ethanol Content	Engine Family / Test Group (VIN ID)	Comments
1996–1997	No FFVs produced during these model years.			
1998	<i>Chrysler Caravan and Town and Country / Dodge Caravan / Plymouth Voyager</i>	3.3L V-6 / (E85)	WCRXT03.32BP (VIN 8 th digit: G)	All monitors disabled for operation >E30 and ethanol fuel content learning. Desensitized system monitors: - fuel system rail check only for >E30; - fuel system rich for >E50; - fuel system lean and misfire for E0-E10 and coolant temp >230 deg. F; - purge flow check.
1999	<i>Chrysler Town and Country / Dodge Caravan / Plymouth Voyager</i>		XCRXT03.32BP (VIN 8 th digit: G)	
2000	<i>Chrysler Caravan, Voyager, and Town and Country / Dodge Caravan / Plymouth Voyager</i>		YCRXT03.32BP (VIN 8 th digit: G)	
2001	<i>Chrysler Caravan, Voyager and Town and Country / Dodge Caravan</i>		1CRXT03.32DP 1CRXT03.32DT (VIN 8 th digit: 3)	No monitors disabled for alternate fuel operation.
2002	<i>Chrysler Caravan, Voyager and Town and Country / Dodge Caravan</i>		2CRXT03.32DP (VIN 8 th digit: 3)	Desensitized system monitors: - evaporative leak check for >E30; - fuel System Rich for >E50; - purge flow check.
2003	<i>Dodge Stratus / Chrysler Sebring Convertible/Sedan</i>	2.7L V-6 / (E10 and E85)	3CRXV02.7VDP (VIN 8 th digit: T)	Re-enablement procedure: five (5) fuel add events ¹ of gasoline followed by two engine cold starts ² .
	<i>Chrysler Caravan, Voyager and Town and Country / Dodge Caravan</i>	3.3L V-6 / (E85)	3CRXT03.32DP 3CRXT03.32DR (VIN 8 th digit: 3)	

¹ A fuel add event is defined by an increase in fuel tank level of at least five (5) gallons.

² Engine cold start occurs with engine coolant temperature between 40 & 95°F and within 12°F of ambient temperature.

Section A: Chrysler Corporation (cont.)

Model Year	Model	Displacement & Engine Type / Ethanol Content	Engine Family / Test Group (VIN ID)	Comments
2004	Dodge Stratus / Chrysler Sebring Convertible/Sedan	2.7L V-6 / (E10 and E85)	4CRXV02.7VHP (VIN 8 th digit: T)	OBD II monitors fully functional and compliant on all FFV fuel blends.
	Dodge Ram 1500 Pick-Up 2-wheel and 4-wheel drive	4.7L V-8 / (E85)	4CRXT04.75TP (VIN 8 th digit: P)	
2005	Dodge Stratus / Chrysler Sebring Sedan	2.7L V-6 / (E85)	5CRXV02.7VHP (VIN 8 th digit: T)	
	Chrysler Town and Country / Dodge Caravan	3.3L V-6 / (E85)	5CRXT03.32NP (VIN 8 th digit: E)	
	Dodge Ram 1500 Pick-Up 2-wheel and 4-wheel drive	4.7L V-8 / (E85)	5CRXT04.75SP (VIN 8 th digit: P)	
2006	Dodge Stratus / Chrysler Sebring Sedan	2.7L V-6 / (E85)	6CRXV02.7VHP (VIN 8 th digit: T)	
	Dodge Caravan	3.3L V-6 / (E85)	6CRXT03.32NP (VIN 8 th digit: E)	
	Dodge Durango / Ram 1500 Pick-Up 2-wheel and 4-wheel drive	4.7L V-8 / (E85)	6CRXT04.75SP (VIN 8 th digit: P)	
2007	Chrysler Sebring Sedan	2.7L V-6 / (E85)	7CRXV02.7MHP (VIN 8 th digit: n/a)	
	Dodge Caravan	3.3L V-6 / (E85)	7CRXT03.3NHP (VIN 8 th digit: E)	
	Jeep Commander and Grand Cherokee 2-wheel and 4-wheel drive	4.7L V-8 / (E85)	7CRXT04.7PSP (VIN 8 th digit: P)	
	Dodge Dakota / Mitsubishi Raider Pick-Up 2-wheel and 4-wheel drive		7CRXT04.7PJP (VIN 8 th digit: P)	

*Note: DaimlerChrysler Corporation may not designate FFV in the VIN ID for future model years.

Section B: Ford Motor Company

Model Year	Model	Displacement & Engine Type / Ethanol Content	Engine Family / Test Group (Sales Area) (VIN ID)	Comments
1996	Ford Taurus Sedan	3.0L V-6 (E85)	TFM3.0V8NFGK (Federal) (VIN 8 th digit: 2)	System monitors disabled on both gasoline and flex fuel operation: catalyst, misfire, evaporative leak/purge check, oxygen sensor, fuel system. I/M readiness bits for disabled monitors will always be set to "ready."
		3.0L V-6 (Methanol M85)	TFM3.0V8FFEK (Federal) TFM3.0V8F2EK (CA.) (VIN 8 th digit: 1)	
1997	Ford Taurus Sedan	3.0L V-6 (E85)	VFM3.0V8NKGK (50-state: Federal and CA.) (VIN 8 th digit: 2)	
		3.0L V-6 (Methanol M85)	VFM3.0V8FKEK (Federal) VFM3.0V8F2EK (CA.) (VIN 8 th digit: 1)	
1998	Ford Taurus Sedan	3.0L V-6 (E85)	WFMXV03.0AEA (50-state) (VIN 8 th digit: 2)	
		3.0L V-6 (Methanol M85)	WFMXV03.0BMA (50-state) WFMXV03.0AMA (CA.) (VIN 8 th digit: 1)	

Section B: Ford Motor Company (cont.)

Model Year	Model	Displacement & Engine Type / Ethanol Content	Engine Family / Test Group (VIN ID)	Comments	
1999	<i>Ford Taurus</i> Sedan	3.0L V-6 (E85)	XFMXV03.0VDC (50-state) (VIN 8 th digit: 2)	System monitors disabled on both gasoline and flex fuel operation: catalyst, misfire, evaporative leak/purge check, oxygen sensor, fuel system. I/M readiness bits for disabled monitors will always be set to "ready."	
	<i>Ford Ranger</i> 2-wheel drive		XFMXT03.01BA (Federal) XFMXT03.01DC (CA.) (VIN 8 th digit: V)		
	<i>Ford Ranger</i> 4-wheel drive		XFMXT03.02BB (Federal) XFMXT03.02DC (CA.) (VIN 8 th digit: V)		
2000	<i>Ford Taurus</i> Sedan/Wagon		YFMXV03.0VF9 (50-state) (VIN 8 th digit: 2)		System monitors disabled for operation >E10 blends: catalyst, misfire, evaporative leak/purge check.
	<i>Ford Ranger</i> 2-wheel drive		YFMXT03.01D5 (50-state) YFMXT03.01BA (Federal) (VIN 8 th digit: V)		
	<i>Ford Ranger</i> 4-wheel drive		YFMXT03.02D5 (50-state) YFMXT03.02BB (Federal) (VIN 8 th digit: V)		I/M readiness bits for monitors disabled above will always be set to "ready" during flex-fuel operation. procedure needed when switching from flex-fuel to gasoline operation.
	<i>Ford Explorer Postal Version</i> 4-wheel drive	4.0L V-6 (E85)	YFMXT04.02D5 (Federal) (VIN 8 th digit: K)		

Section B: Ford Motor Company (cont.)

Model Year	Model	Displacement & Engine Type / Ethanol Content	Engine Family / Test Group (VIN ID)	Comments
2001	<i>Ford Taurus/Mercury Sable</i> Sedan/Wagon	3.0L V-6 (E85)	1FMXV03.0VF9 (50-state) (VIN 8 th digit: 2)	Desensitized evaporative leak/purge check monitor implemented to detect 0.040" leak for operation >E75 blends.
	<i>Ford Ranger</i> 2-wheel drive		1FMXT03.02F6 (50-state) (VIN 8 th digit: V)	Monitors disabled for operation >E10 blends: catalyst. Desensitized evaporative leak/purge check monitor implemented to detect gross leak for operation >E75 blends (monitor fully compliant up to E75 blends).
	<i>Ford Explorer Sport/Sport Trac/Postal Version</i> 4-wheel drive	4.0L V-6 (E85)	1FMXT04.02F6 (50-state) (VIN 8 th digit: K) I/M readiness bits for monitors disabled above will always be set to "ready" during flex-fuel operation. No OBD monitor re-enablement procedure needed when switching from flex-fuel to gasoline operation.	
2002	<i>Ford Ranger</i> 2-wheel drive	3.0L V-6 (E85)	2FMXT03.02F6 (50 State) (VIN 8 th digit: V)	Monitors Disabled for operation >E10 blends: catalyst. Desensitized evaporative leak/purge check monitor to detect gross leak for operation >E75 blends (monitor fully compliant up to E75 blends). No OBD monitor re-enablement procedure needed when switching from flex-fuel to gasoline operation.

Section B: Ford Motor Company (cont.)

Model Year	Model	Displacement & Engine Type / Ethanol Content	Engine Family / Test Group (VIN ID)	Comments
2002	<i>Ford Taurus/Mercury Sable</i> Sedan/Wagon	3.0L V-6 (E85)	2FMXV03.0VF8 2FMXV03.0VF9 (50 State) (VIN 8 th digit: 2)	No monitors disabled for alternate fuel operation. Desensitized evaporative leak/purge check monitor to detect 0.040" leak for operation >E75 blends (monitor fully compliant up to E75 blends).
	<i>Ford Explorer / Mercury Mountaineer</i> 4-wheel drive	4.0L V-6 (E85)	2FMXT04.02F7 (50 State) (VIN 8 th digit: K)	No OBD monitor re-enablement procedure needed when switching from flex-fuel to gasoline operation.
2003	<i>Ford Taurus/Mercury Sable</i> Sedan/Wagon	3.0L V-6 (E85)	3FMXV03.0VFZ (50 State) (VIN 8 th digit: 2)	OBD II monitors fully functional and compliant on all FFV fuel blends.
	<i>Ford Ranger</i> 2-wheel drive		3FMXT03.02F6 (50 State) (VIN 8 th digit: V)	
	<i>Ford Explorer / Mercury Mountaineer</i> 4-wheel drive	4.0L V-6 (E85)	3FMXT04.02F7 3FMXT04.02FB (50 State) (VIN 8 th digit: K)	
2004	<i>Ford Taurus/Mercury Sable</i> Sedan/Wagon	3.0L V-6 (E85)	4FMXV03.0VFZ (50 State) (VIN 8 th digit: 2)	
	<i>Ford Explorer / Mercury Mountaineer</i> 4-wheel drive	4.0L V-6 (E85)	4FMXT04.02K6 4FMXT04.02K8 (50 State) (VIN 8 th digit: K)	
	<i>Ford Explorer Sport Trac</i> 4-wheel drive		4FMXT04.02K4 (50 State) (VIN 8 th digit: K)	

Section B: Ford Motor Company (cont.)

Model Year	Model	Displacement & Engine Type / Ethanol Content	Engine Family / Test Group (VIN ID)	Comments
2005	<i>Ford Taurus/Mercury Sable Sedan/Wagon</i>	3.0L V-6 (E85)	5FMXV03.0VFZ (50 State) (VIN 8 th digit: 2)	OBD II monitors fully functional and compliant on all FFV fuel blends.
	<i>Ford Explorer / Mercury Mountaineer 4-wheel drive</i>	4.0L V-6 (E85)	5FMXT04.02K8 (50 State) (VIN 8 th digit: K)	
2005	<i>Ford Explorer Sport Trac 4-wheel drive</i>	4.0L V-6 (E85)	5FMXT04.02K4 (50 State) (VIN 8 th digit: K)	OBD II monitors fully functional and compliant on all FFV fuel blends.
2006	<i>Ford Taurus Sedan/Wagon</i>	3.0L V-6 (E85)	6FMXV03.0VFZ (Federal) (VIN 8 th digit: 2)	
	<i>Ford Crown Victoria / Mercury Grand Marquis/ Lincoln Town Car</i>	4.6L V-8 (E85)	6FMXV04.6VE2 (Federal) (VIN 8 th digit: V)	
	<i>Ford F-150</i>	5.4L V-8 (E85)	6FMXT05.4RH2 (Federal) (VIN 8 th digit: V)	
2007	<i>Ford Crown Victoria / Mercury Grand Marquis/ Lincoln Town Car</i>	4.6L V-8 (E85)	7FMXV04.6VE2 (Federal) 7FMXV04.6VEF (50 State) (VIN 8 th digit: V)	
	<i>Ford F-150</i>	5.4L V-8 (E85)	7FMXT05.44H2 7FMXT05.44HF (Federal) 7FMXT05.44E2 (50 State) (VIN 8 th digit: V)	

*** NOTE: 50 State = Product certified for sale in all 50 States; Fed = federally certified product available in all states which do not require California emissions; Cal = California emissions certified product available in California and all states which require California emissions.**

Section C: General Motors Corporation

Model Year	Model	Displacement & Engine Type / Ethanol Content	Engine Family / Test Group (VIN ID)	Comments
1996-1999	No FFVs produced during these model years.			
2000	<i>Chevrolet S-10/GMC Sonoma</i> 2-wheel drive	2.2 L I-4 / (E85)	YGMXT02.2121 YGMXT02.2122 (VIN 8 th digit: 5)	System monitors disabled for operation ≥E15 blends: O2 sensor heater, secondary air, catalyst.
2001	<i>Chevrolet S-10/GMC Sonoma</i> 2-wheel drive		1GMXT02.2122 (VIN 8 th digit: 5)	System monitors disabled for operation ≥E10 blends: evaporative leak check. Desensitized O2 sensor monitor implemented; only reports faults during operation ≤E15 blends.
	<i>Chevrolet S-10/GMC Sonoma</i> 2-wheel drive		2GMXT02.2122 (VIN 8 th digit: 5)	No OBD monitor re-enablement procedure needed when switching from flex-fuel to gasoline operation.
2002	<i>C1500 Sierra / Silverado</i> 2-wheel drive	5.3L V-8 / (E85)	2GMXT05.3177 (VIN 8 th digit: Z)	OBD II monitors fully functional and compliant on all FFV fuel blends.
	<i>K1500 Sierra / Silverado</i> 4-wheel drive			
	<i>C1500 Suburban / Tahoe / Yukon / Yukon XL</i> 2-wheel drive		2GMXT05.3188 (VIN 8 th digit: Z)	
	<i>K1500 Suburban / Tahoe / Yukon / Yukon XL</i> 4-wheel drive			

Section C: General Motors Corporation (cont.)

Model Year	Model	Displacement & Engine Type / Ethanol Content	Engine Family / Test Group (VIN ID)	Comments
2003	<i>C1500 Sierra / Silverado</i> 2-wheel drive <i>K1500 Sierra / Silverado</i> 4-wheel drive	5.3L V-8 / (E85)	3GMXT05.3177 (VIN 8 th digit: Z)	OBD II monitors fully functional and compliant on all FFV fuel blends.
2003	<i>C1500 Suburban / Tahoe / Yukon / Yukon XL</i> 2-wheel drive <i>K1500 Suburban / Tahoe / Yukon / Yukon XL</i> 4-wheel drive <i>K1500 Suburban / Tahoe / Yukon / Yukon XL</i> All-wheel drive	5.3L V-8 / (E85)	3GMXT05.3175 (VIN 8 th digit: Z)	OBD II monitors fully functional and compliant on all FFV fuel blends.
2004	<i>C1500 Sierra / Silverado</i> 2-wheel drive <i>K1500 Sierra / Silverado</i> 4-wheel drive	5.3L V-8 / (E85)	4GMXT05.3177 (VIN 8 th digit: Z)	OBD II monitors fully functional and compliant on all FFV fuel blends.
	<i>C1500 Suburban / Tahoe / Yukon / Yukon XL</i> 2-wheel drive <i>K1500 Sierra / Silverado / Suburban / Tahoe / Yukon / Yukon XL</i> 4-wheel drive <i>K1500 Suburban / Tahoe / Yukon / Yukon XL</i> All-wheel drive		4GMXT05.3175 (VIN 8 th digit: Z)	

Section C: General Motors Corporation (cont.)

Model Year	Model	Displacement & Engine Type / Ethanol Content	Engine Family / Test Group (VIN ID)	Comments
2005	<i>C1500 Sierra / Silverado / Tahoe</i> 2-wheel drive <i>K1500 Sierra / Silverado</i> 4-wheel drive	5.3L V-8 / (E85)	5GMXT05.3177 (VIN 8 th digit: Z)	OBD II monitors fully functional and compliant on all FFV fuel blends.
2005	<i>C1500 Suburban / Tahoe / Yukon / Yukon XL / Avalanche</i> 2-wheel drive <i>K1500 Sierra / Silverado / Suburban / Tahoe / Yukon / Yukon XL / Avalanche</i> 4-wheel drive <i>K1500 Suburban / Tahoe / Yukon / Yukon XL</i> All-wheel drive	5.3L V-8 / (E85)	5GMXT05.3175 (VIN 8 th digit: Z)	
2006	<i>Impala / Monte Carlo</i>	3.5L V-6 / (E85)	6GMXV03.5050 6GMXV03.5051 (VIN 8 th digit: K)	OBD II monitors fully functional and compliant on all FFV fuel blends.
	<i>C1500 Sierra / Silverado / Suburban / Tahoe / Yukon / Yukon XL / Avalanche</i> 2-wheel drive <i>K1500 Sierra / Silverado / Suburban / Tahoe / Yukon / Yukon XL / Avalanche</i> 4-wheel drive	5.3L V-8 / (E85)	6GMXT05.3375 (VIN 8 th digit: Z)	
2007	<i>Impala / Monte Carlo</i>	3.5L V-6 / (E85)	7GMXV03.5052 (VIN 8 th digit: K)	
	<i>Terraza / Uplander</i>	3.9L V-6 / (E85)	7GMXT03.9140 (VIN 8 th digit: W)	

Section C: General Motors Corporation (cont.)

Model Year	Model	Displacement & Engine Type / Ethanol Content	Engine Family / Test Group (VIN ID)	Comments
2007	<p><i>C1500 Sierra Classic / Silverado Classic</i> <i>G1500/2500 Express / Savana Cargo & Passenger</i> <i>G1500/2500 Van</i> 2-wheel drive</p> <p><i>K1500 Sierra Classic / Silverado Classic</i> 4-wheel drive</p> <p><i>H1500 Express / Savana Passenger Van</i></p> <p><i>H1500/2500 Savana Cargo/ Van</i> All-wheel drive</p>	5.3L V-8 / (E85)	7GMXT05.3373 (VIN 8 th digit: Z)	OBD II monitors fully functional and compliant on all FFV fuel blends.
	<p><i>C1500 Sierra Classic / Silverado Classic / Sierra / Silverado / Avalanche / Suburban / Tahoe / Yukon / Yukon XL, G1500/2500 Express / Savana Cargo & Passenger, G1500/2500 Van</i> 2-wheel drive</p> <p><i>K1500 Sierra Classic / Silverado Classic / Sierra / Silverado / Avalanche / Suburban / Tahoe / Yukon / Yukon XL</i> 4-wheel drive</p> <p><i>H1500 Express / Savana Passenger</i> <i>H1500/2500 Savana Cargo/ Van</i> All-wheel drive</p>		7GMXT05.3375 (VIN 8 th digit: Z, 3, or 0)	

Section C: General Motors Corporation (cont.)

Model Year	Model	Displacement & Engine Type / Ethanol Content	Engine Family / Test Group (VIN ID)	Comments
2007	<i>C1500 Silverado / Avalanche / Suburban / Tahoe / Yukon / Yukon XL</i> <i>G1500/2500 Express / Savana Cargo & Passenger</i> <i>G1500/2500 Van</i> 2-wheel drive <i>K1500 Sierra / Silverado / Avalanche / Suburban / Tahoe / Yukon / Yukon XL</i>	5.3L V-8 / (E85)	7GMXT05.3381 (VIN 8 th digit: 3 or 0)	OBD II monitors fully functional and compliant on all FFV fuel blends.

Section D: Isuzu Motor Corporation

Model Year	Model	Displacement & Engine Type / Ethanol Content	Engine Family / Test Group (VIN ID)	Comments
1996-1999	No FFVs produced during these model years.			
2000	<i>Hombre</i> 2-wheel drive	2.2 L I-4 / (E85)	YGMXT02.2121 YGMXT02.2122 (VIN 8 th digit: 5)	This model shares a platform with the Chevrolet S-10 and GMC Sonoma. <i>For guidance on these models, please refer to Section C "General Motors Corporation."</i>
2001	<i>Hombre</i> 2-wheel drive		YGMXT02.2121 YGMXT02.2122 (VIN 8 th digit: 5)	
2002-2007	No FFVs produced during these model years.			

Section E: Mazda North American Operations

Model Year	Model	Displacement & Engine Type / Ethanol Content	Engine Family / Test Group (VIN ID)	Comments
1996-1998	No FFVs produced during these model years.			
1999	B3000 4-wheel drive	3.0 L V-6 / (E85)	XFMXT03.02BB (VIN 8 th digit: V)	This model shares a platform with the Ford Ranger. <i>For guidance on these models, please refer to Section B “Ford Motor Corporation.”</i>
2000	B3000 2-wheel drive		YFMXT03.01BA YFMXT03.01D5 (VIN 8 th digit: V)	
	B3000 4-wheel drive		XFMXT03.02BB (VIN 8 th digit: V)	
2001	No FFVs produced during these model years.			
2002	B3000 2-wheel drive	3.0 L V-6 / (E85)	2FMXT03.02F6 (VIN 8 th digit: V)	This model shares a platform with the Ford Ranger. <i>For guidance on these models, please refer to Section B “Ford Motor Corporation.”</i>
2003	B3000 2-wheel drive		3FMXT03.02F6 (VIN 8 th digit: V)	
2004-2007	No FFVs produced during these model years.			

Section F: Mercedes-Benz

Model Year	Model	Displacement & Engine Type / Ethanol Content	Engine Family / Test Group	Comments
1996–2002	No FFVs produced during these model years.			
2003	<i>C-Class: C320</i> Sedan/Wagon/Sportscoupe	3.2 L V-6 / (E85 + Premium)	3MBXV03.2LXY	No disablements or desensitization during alternate fuel operation.
2004	<i>C-Class: C240</i> Sedan/Wagon	2.6 L V-6 / (E85 + Premium)	4MBXV03.2LXX	
	<i>C-Class: C320</i> Sedan/Wagon/Sportscoupe	3.2 L V-6 / (E85 + Premium)		
2005	<i>C-Class: C240</i> Sedan/Wagon	2.6 L V-6 / (E85 + Premium)	5MBXV03.2LBX	
	<i>C-Class: C320</i> Sedan/Wagon/Sportscoupe	3.2 L V-6 / (E85 + Premium)		
2006	No FFVs produced during this model year.			
2007	<i>C-Class: C230</i> Sedan	2.5 L V-6 / (E85 + Premium)	7MBXV02.5U2A	No disablements or desensitization during alternate fuel operation.
2008	<i>C-Class: C300</i> Sedan	3.0 L V-6 / (E85 + Premium)	8MBXV03.0U2A	

*** NOTE:** Mercedes-Benz do not use a special indicator in the VIN for FFVs.

Section G: Nissan Motor Company

Model Year	Model	Displacement & Engine Type / Ethanol Content	Engine Family / Test Group (VIN ID)	Comments
1996-2004	No FFVs produced during these model years.			
2005	<i>Titan</i> 2-Wheel Drive	5.6 L V-8 / (E85)	5NSXT05.6M9B (VIN 4 th digit: B)	No disablements or desensitization during alternate fuel operation.
	<i>Titan</i> 4-Wheel Drive		5NSXT05.6P9C (VIN 4 th digit: B)	
2006	<i>Titan</i> 2-Wheel Drive		6NSXT05.6M9B (VIN 4 th digit: B)	
	<i>Titan</i> 4-Wheel Drive		6NSXT05.6P9B (VIN 4 th digit: B)	
2007	<i>Armada</i> 2-Wheel and 4-Wheel Drive		7NSXT05.6G9B (VIN 4 th digit: B)	
	<i>Titan</i> 2-Wheel and 4-Wheel Drive			

EPA Contact Information

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