

Smog Check OBD II Reference (Testability Issues)

(formerly known as APPENDIX J)

The Smog Check OBD II Reference provides information and test instructions for inspecting vehicles with known OBD II functional test difficulties.

- **Table 1 - 1a** lists known OBD II testability issues.
- **Table 2** data no longer exists in this document, but the information is provided by BAR through a link to the [National OBD Clearinghouse](#). Many CAN-equipped gasoline vehicles currently cannot be OBD II tested. The EIS should automatically bypass the OBD II test for CAN equipped vehicles. However, if the EIS prompts for an OBD II test, bypass the test by answering “No” to the OBD II functional test prompt. Unless otherwise instructed by BAR, do not answer “No” to bypass the OBD II functional test for any other OBD II equipped vehicles.
- **Table 3** identifies Flexible Fuel Vehicle(s) (FFV) that have a U.S. EPA exception from performing some OBD II functions while under operation with an alternative fuel. Although some OBD II functionality may not be present, the OBD II portion of the Smog Check shall be performed as instructed in the Smog Check Inspection Manual. The OBD II test shall NOT be bypassed by the EIS or the technician.
- **Table 4** assists in identifying diesel vehicles that cannot receive the OBD II functional test as a result of either: 1) they are not OBD II compatible, or 2) they use the CAN communication protocol.

To ensure that any special test processes are appropriately applied, always select the correct vehicle from the vehicle information (make, model, engine size, etc.) provided from the VLT by the BAR-97 inspection menu lists.

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| TABLE 1 – OBD II Testability Issues | | | | |
|--|------------|---|--|--|
| Make | Model Year | Model | Problem | Action |
| Audi and Volkswagen | 1996-2002 | All models with non-OEM stereos | If the OEM stereo has been replaced with an aftermarket stereo, these vehicles may not communicate with the analyzer and/or OBD code scanner and may cause severe damage to the analyzer/scanner. For more information, see VW Technical service bulletin 02-03 dated June 10, 2002. | BAR recommends that you check with your analyzer/scan tool manufacturer to determine whether or not your analyzer/scan tool has complete current/voltage override protection. Override protection will protect the test equipment in cases where aftermarket installations cause over current conditions. BAR's June 22, 2002 ET Blast provides a method of checking for high voltage conditions using a test light. An alternative is to send all 96-newer VW/Audis with non-OEM radio installations to a VW/Audi dealership for verification of proper OBD function. |
| Chrysler | 1996 | Cirrus, Concorde, LHS, Sebring, Sebring Convertible | All monitors reset to "incomplete" upon <u>every</u> ignition key-off. | Determine if Recall Campaign #678 (9/96) has been performed; if not, refer to dealer. TSB 18-005-01 applies to non-California certified vehicles, and may be performed at no cost, even if warranty is expired. |
| Dodge | 1996 | Avenger, Intrepid, Stratus, Neon | All monitors reset to "incomplete" upon <u>every</u> ignition key-off | Determine if Recall Campaign #678 (9/96) has been performed; if not, refer to dealer. TSB 18-005-01 applies to non-California certified vehicles, and may be performed at no cost, even if warranty is expired. |
| Eagle | 1996 | Talon, Vision | All monitors reset to "incomplete" upon <u>every</u> ignition key-off. | Determine if Recall Campaign #678 (9/96) has been performed; if not, refer to dealer. TSB 18-005-01 applies to non-California certified vehicles, and may be performed at no cost, even if warranty is expired. |
| Hyundai | 2002 | Sonata | Readiness monitors are difficult to complete. Must successfully complete drive cycle TWO times. | Hyundai TSB #02-36-030 applies. Hyundai TSB information at: < http://hmaservice.com/webtech > |
| Hyundai | 2003 | Tiburon | Will not communicate with generic OBD II test equipment. | A manufacturer recall is in effect; recall campaign #057 and Hyundai TSB #03-01-003-01. Refer to dealership for recall. |
| Infiniti | 1996 | All Models | The catalyst and evaporative monitors are difficult to set to "complete." | Nissan provides recommended drive cycles (drive patterns). See Nissan Technical Service Bulletin #NTB98-018, February 18, 1998. |
| Mercedes-Benz | 1996 | C220, E320, C280, S320, SL320 | The MIL illuminates whenever a scan tool is connected to the DLC. Trouble codes are not stored. However, if the OBD II connector is used as an RPM source during the Smog Check, the MIL will illuminate. | Do not connect the OBD II connector until the analyzer prompts for the OBD II functional test. Use the conventional contact or non-contact method to obtain an rpm signal. |

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| TABLE 1 – OBD II Testability Issues | | | | |
|--|-------------------|--|--|--|
| Make | Model Year | Model | Problem | Action |
| Mercedes-Benz | 2001-2003 | All models | No communication with some Snap-On EIS. | Snap-On produces a revised chip that enables communication. If your Snap-On EIS does not use the revised chip, do not inspect these vehicles; they will NOT communicate. Refer the motorist to another station for inspection. |
| Mitsubishi | 1998-2001 | Montero, Montero Sport, Diamante, 3000GT, Mirage, Galant, Expo/Expo LRV, and Eclipse models (except 2.0L non-turbo 420A engine models) | Some monitors are difficult to set to "complete." | Mitsubishi provides recommended drive cycles in its service. See service manual for 1998-2001 drive cycles. |
| Nissan | 1996-1997 | All Models | The catalyst and evaporative monitors are difficult to set to "complete." | Nissan provides recommended drive cycles (drive patterns) in its service information to assist technicians to operate monitors. See Nissan Technical Service Bulletin #NTB98-018c, January 3, 2002. |
| Plymouth | 1996 | Breeze Neon | All monitors reset to "incomplete" upon every ignition key-off. | A manufacturer recall is in effect. Verify recall has been performed. If not, refer to dealer for the recall. |
| Saab | 1996-1998 | 900 (B234i with Motronic 4.1) | All monitors are difficult to set to "complete." | Saab Service Instruction No. 248 describes the correct drive cycle for completion of the monitors. |
| Saab | 1996-1998 | All Models | The catalyst and evaporative monitors are difficult to set to "complete." | The Smog Check OBD readiness criteria for this vehicle allow two monitors to be incomplete. |
| Toyota | 1997 | Tercel, Paseo | The evaporative monitor will never set to "complete." | The Smog Check OBD readiness criteria for these vehicles allow two monitors to be incomplete. |
| Volkswagen and Audi | 1997-2002 | All models with non-OEM stereos | If the OEM stereo has been replaced with an aftermarket stereo, these vehicles may not communicate with OBD code scanners and may cause severe damage to code scanning tools. For more information, see VW Technical service bulletin 02-03 dated June 10, 2002. | BAR recommends that you check with your analyzer/scan tool manufacturer to determine whether or not your analyzer/scan tool has complete current/voltage override protection. Override protection will protect the test equipment in cases where aftermarket installations cause over current conditions. BAR's June 22, 2002 ET Blast provides a method of checking for over current conditions using a test light. An alternative is to send all 96-newer VW/Audis with non-OEM radio installations to a VW/Audi dealership for verification of proper OBD function. |
| | | | | End Table 1 |

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| TABLE 1a – The EIS Ignores Monitor Readiness Status | | | | |
|--|------------|--|--------------------------------------|---|
| Make | Model Year | Model | Displacement | Action |
| BMW | 1996 | 750iL, 850Ci, 850Csi 12-cylinder engines. | | Complete Inspection as prompted by the EIS. |
| Dodge | 1996 | Stealth, Stealth RT | 3.0 | Complete Inspection as prompted by the EIS. |
| Mitsubishi | 1996-97 | 3000 GT, 3000 GT Spider, 3000 GT VR-4, Diamante, Eclipse, Galant, Mighty Max, Mirage, Montero, Montero Sport | 1.5, 1.8, 2.0, 2.4, 2.5, 3.0, 3.5 | Complete Inspection as prompted by the EIS. |
| Subaru | 1996 | Impreza, Legacy, SVX | 1.8, 2.2, 2.5, 3.3 | Complete Inspection as prompted by the EIS. |
| Volvo | 1996-97 | 960 | 2.5, 2.9 | Complete Inspection as prompted by the EIS. |
| Volvo | 1996-97 | 850, 850R, 850Turbo | 2.3, 2.4 | Complete Inspection as prompted by the EIS. |
| Volvo | 1998 | C70, S70, V70, S90, V90 | 2.3, 2.4, 2.9 | Complete Inspection as prompted by the EIS. |
| | | | | End Table 1a |

| TABLE 2 – Vehicles Currently Not OBD II Testable |
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| <p>Many vehicles use an OBD II protocol known as Controller Area Network (CAN), which will not currently communicate with the BAR-97 emissions inspection system.</p> <p>BAR will no longer publish Table 2 data. Instead, refer to the CAN vehicle information published in the following link.</p> |
| <p>http://obdclearinghouse.com/index.php?body=can</p> |
| <p>This is an official archive of CAN vehicle listings. Click on the link that is most current (top of the list). When the Excel workbook is opened, click the 'CAN' worksheet tab.</p> |

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TABLE 3 – Flex Fuel Vehicle Testability Issues

Table 3 identifies Flexible Fuel Vehicle(s) (FFV) that have a U.S. EPA exception from performing some OBD II functions while under operation with an alternative fuel. Although some OBD II functionality may not be present, the OBD II portion of the Smog Check shall be performed as instructed in the Smog Check Inspection Manual.

| Model Year | Model | Engine | Engine Family and VIN | Problem | Action |
|-----------------------|--|-----------------|---|--|---|
| Chrysler | | | | | |
| 1998 | Chrysler Caravan and Town and Country / Dodge Caravan / Plymouth Voyager | 3.3L V-6 (E85) | WCRXT03.32BP (VIN 8 th digit: G) | All monitors disabled for operation >E30 and ethanol fuel content learning. | Complete Inspection as prompted by the EIS. |
| 1999 | Chrysler Town and Country / Dodge Caravan / Plymouth Voyager | 3.3L V-6 (E85) | XCRXT03.32BP (VIN 8 th digit: G) | Desensitized system monitors: <ul style="list-style-type: none"> • 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. | |
| 2000 | Chrysler Caravan, Voyager, and Town and Country / Dodge Caravan / Plymouth Voyager | 3.3L V-6 (E85) | YCRXT03.32BP (VIN 8 th digit: G) | | |
| Ford | | | | | |
| 2002 | Ford Ranger 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). | Complete Inspection as prompted by the EIS. |
| General Motors | | | | | |
| 2000 | Chevrolet S-10/GMC Sonoma 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. System monitors disabled for operation ≥E10 blends: evaporative leak check. Desensitized O2 sensor monitor implemented; only reports faults during operation ≤E15 blends. | Complete Inspection as prompted by the EIS. |

Table 3 continued on next page

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| Model Year | Model | Engine | Engine Family and VIN | Problem | Action |
|-----------------------------------|--|----------------------|--|--|---|
| General Motors – continued | | | | | |
| 2001 | Chevrolet S-10/GMC Sonoma 2-wheel drive | 2.2 L I-4 (E85) | 1GMXT02.2122 (VIN 8 th digit: 5) | System monitors disabled for operation \geq E15 blends: O2 sensor heater, secondary air, catalyst. System monitors disabled for operation \geq E10 blends: evaporative leak check. Desensitized O2 sensor monitor implemented; only reports faults during operation \leq E15 blends. | Complete Inspection as prompted by the EIS. |
| 2002 | Chevrolet S-10/GMC Sonoma 2-wheel drive | 2.2 L I-4 (E85) | 2GMXT02.2122 (VIN 8 th digit: 5) | System monitors disabled for operation \geq E15 blends: O2 sensor heater, secondary air, catalyst. System monitors disabled for operation \geq E10 blends: evaporative leak check. Desensitized O2 sensor monitor implemented; only reports faults during operation \leq E15 blends. | |
| Isuzu | | | | | |
| 2000 | Hombre 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 General Motors section.</i> | Complete Inspection as prompted by the EIS. |
| 2001 | Hombre 2-wheel drive | 2.2 L I-4 / (E85) | YGMXT02.2121 YGMXT02.2122 (VIN 8 th digit: 5) | | |
| Mazda | | | | | |
| 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 Ford section.</i> | Complete Inspection as prompted by the EIS. |
| 2003 | B3000 2-wheel drive | 3.0 L V-6 (E85) | 3FMXT03.02F6 (VIN 8 th digit: V) | | |
| End Table 3 | | | | | |

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| Table 4 – Diesel Vehicle OBDII Compatibility with BAR-97 | | | | |
|---|------------------|--------------------------|--|---|
| Model-Year | California OBDII | Federal Light-Duty OBDII | Federal Heavy-Duty OBDII (>8500 lb GVWR) | CAN protocol prevents OBDII communication with BAR-97 |
| 1998-2002 | OK | OK | not OBDII testable | CAN was not used |
| 2003 | OK | OK | not OBDII testable | some vehicles not OBDII testable |
| 2004-2007 | OK | OK | OK | some vehicles not OBDII testable |
| 2008-2009 | OK | OK | OK | MOST vehicles not OBDII testable with BAR-97 |