ELM-327 with OBD2 Scanner vers 2.2 Application for iPhone

Date: June 14, 2019 at 3:46 PM

OBD2 Report 6/14/19 3:37 PM Generated by OBD2 Scanner

Sensor	Last value	Range
O2 Sensors **Oxygen Sensors Present**	O2S11, O2S12, O2S21, O2S22	
SHORTTF2 **Short term fuel trim: Bank 2 - Fuel trim is a key diagnostic parameter and your window into what the computer is doing to control fuel delivery and how the adaptive strategy is operating. STFT and LTFT are expressed as a percentage, with the ideal range being within ±5%. Positive fuel trim percentages indicate that the powertrain control module (PCM) is attempting to enrichen the fuel mixture to compensate for a perceived lean condition. Negative fuel trim percentages indicate that the PCM is attempting to enlean the fuel mixture to compensate for a perceived rich condition. STFT will normally sweep rapidly between enrichment and enleanment, while LTFT will remain more stable. If STFT or LTFT exceeds ±10%, this should alert you to a potential problem. The next step is to determine if the condition exists in more than one operating range. Fuel trim should be checked at idle, at 1500 rpm and at 2500 rpm. For example, if LTFT B1 is 25% at idle but corrects to 4% at both 1500 and 2500 rpm, your diagnosis should focus on factors that can cause a lean condition at idle, such as a vacuum leak. If the condition exists in all rpm ranges, the cause is more likely to be fuel supply-related, such as a bad fuel pump, restricted injectors, etc.Fuel trim can also be used to identify which bank of cylinders is causing a problem. This will work only on bank-to-bank hiel control engines. For example, if LTFT B1 is -20% and LTFT B2 is 3%, the source of the problem is associated with BI cylinders only, and your diagnosis should focus on factors related to BI cylinders only.The following parameters could affect fuel trim or provide additional diagnostic information. Also, even if fuel trim is not a concern, you might find an indication of another problem when reviewing these parameters: Fuel System 1 Status and Fuel System 2 Status should be in closed-loop (CL). If the PCM is not able to achieve CL, the fuel trim data may not be accurate.**	0 %	[0..9] Avg. 4
MAF **The Mass Airflow (MAF) Sensor, if the system includes one, measures the amount of air flowing into the engine. The PCM uses this information to calculate the amount of fuel that should be delivered, to achieve the desired air/fuel mixture. The MAF sensor should he checked for accuracy in various rpm ranges, including wide-open throttle (WOT), and compared with the manufacturer's recommendations. Mark Warren's Dec. 2003 Driveahility Corner column covered volumetric efficiency, which should help you with MAF diagnostics. When checking MAF sensor readings, be sure to identify the unit of measurement. The scan tool may report the information in grams per second (gm/S) or pounds per minute (lb/min). For example, if the MAF sensor specification is 4 to 6 gm/S and your scan tool is reporting .6 lb/min, change from English units to metric units to obtain accurate readings. Some technicians replace the sensor, only to realize later that the scan tool was not set correctly. The scan tool manufacturer might display the parameter in both gm/S and lb/min to help avoid this confusion.**	24 g/s	[5..77] Avg. 41
ECT **Engine Coolant Temperature (ECT) should reach operating temperature, preferably 190°F (40.5˚C) or higher. If the ECT is too low, the PCM may richen the fuel mixture to compensate for a (perceived) cold engine condition.**	99 ˚C	[76..99] Avg. 87
Speed **Vehicle Speed**	74 km/h	[0..122] Avg. 61
OVB1S2 **Oxygen Voltage: Bank 1, Sensor 2 Oxygen Sensor Output Voltage BISI, B2S1, B1S2, etc., are used by the PCM to control fuel mixture. Another use for the oxygen sensors is to detect catalytic converter degradation. The scan tool can be used to check basic sensor operation. Another way to test oxygen sensors is with a graphing scan tool, but you can still use the data grid if graphing is not available on your scanner. Most scan tools on the market now have some form of graphing capability.The process for testing the sensors is simple: The sensor needs to exceed .8 volt and drop below .2 volt, and the transition from low to high and high to low should be quick. In most cases, a good snap throttle test will verify the sensor's ability to achieve the .8 and .2 voltage limits. If this method does not work, use a bottle of propane to manually richen the fuel mixture to check the oxygen sensor's maximum output.**	0.465 V / V	[0..0] Avg. 0
LONGTF1 **Long term fuel trim: Bank 1 - Fuel trim is a key diagnostic parameter and your window into what the computer is doing to control fuel delivery and how the adaptive strategy is operating. STFT and LTFT are expressed as a percentage, with the ideal range being within ±5%. Positive fuel trim percentages indicate that the powertrain control module (PCM) is attempting to enrichen the fuel mixture to compensate for a perceived lean condition. Negative fuel trim percentages indicate that the PCM is attempting to enlean the fuel mixture to compensate for a perceived rich condition. STFT will normally sweep rapidly between enrichment and enleanment, while LTFT will remain more stable. If STFT or LTFT exceeds ±10%, this should alert you to a potential problem. The next step is to determine if the condition exists in more than one operating range. Fuel trim should be checked at idle, at 1500 rpm and at 2500 rpm. For example, if LTFT B1 is 25% at idle but corrects to 4% at both 1500 and 2500 rpm, your diagnosis should focus on factors that can cause a lean condition at idle, such as a vacuum leak. If the condition exists in all rpm ranges, the cause is more likely to be fuel supply-related, such as a bad fuel pump, restricted injectors, etc.Fuel trim can also be used to identify which bank of cylinders is causing a problem. This will work only on bank-to-bank hiel control engines. For example, if LTFT B1 is -20% and LTFT B2 is 3%, the source of the problem is associated with BI cylinders only, and your diagnosis should focus on factors related to BI cylinders only.The following parameters could affect fuel trim or provide additional diagnostic information. Also, even if fuel trim is not a concern, you might find an indication of another problem when reviewing these parameters: Fuel System 1 Status and Fuel System 2 Status should be in closed-loop (CL). If the PCM is not able to achieve CL, the fuel trim data may not be accurate.**	7 %	[3..14] Avg. 8
IAT **Intake Air Temperature (IAT) should read ambient temperature or close to underhood temperature, depending on the location of the sensor. In the case of a cold engine check-Key On Engine Off (KOEO)-the ECT and IAT should be within 5°F (-15˚C) of each other.**	26 ˚C	[25..31] Avg. 28
R O2S5 **Equivalence Ratio: O2S5**	0.989 /	[0..1] Avg. 0

Eng. Load Calculated Engine Load Value	39 %	[13.80 Avg. 46
RPM Engine Speed (RPM) and Ignition Timing Advance can be used to verify good idle control strategy. Again, these are best checked using a graphing scan tool.The RPM, Vehicle Speed Sensor (VSS) and Throttle Position Sensor (TPS) should be checked for accuracy. These parameters can also be used as reference points to duplicate symptoms and locate problems in recordings.	1607 RPM	[575..3280] Avg. 1927
Monitor status since DTCs cleared Includes Malfunction Indicator Lamp (MIL) status and number of DTCs.	0.000	[0..0] Avg. 0
LONGTF2 Long term fuel trim: Bank 2 - Fuel trim is a key diagnostic parameter and your window into what the computer is doing to control fuel delivery and how the adaptive strategy is operating. STFT and LTFT are expressed as a percentage, with the ideal range being within ±5%. Positive fuel trim percentages indicate that the powertrain control module (PCM) is attempting to enrichen the fuel mixture to compensate for a perceived lean condition. Negative fuel trim percentages indicate that the PCM is attempting to enlean the fuel mixture to compensate for a perceived rich condition. STFT will normally sweep rapidly between enrichment and enleanment, while LTFT will remain more stable. If STFT or LTFT exceeds ±10%, this should alert you to a potential problem. The next step is to determine if the condition exists in more than one operating range. Fuel trim should be checked at idle, at 1500 rpm and at 2500 rpm. For example, if LTFT B1 is 25% at idle but corrects to 4% at both 1500 and 2500 rpm, your diagnosis should focus on factors that can cause a lean condition at idle, such as a vacuum leak. If the condition exists in all rpm ranges, the cause is more likely to be fuel supply-related, such as a bad fuel pump, restricted injectors, etc.Fuel trim can also be used to identify which bank of cylinders is causing a problem. This will work only on bank-to-bank hiel control engines. For example, if LTFT B1 is -20% and LTFT B2 is 3%, the source of the problem is associated with BI cylinders only, and your diagnosis should focus on factors related to BI cylinders only.The following parameters could affect fuel trim or provide additional diagnostic information. Also, even if fuel trim is not a concern, you might find an indication of another problem when reviewing these parameters: Fuel System 1 Status and Fuel System 2 Status should be in closed-loop (CL). If the PCM is not able to achieve CL, the fuel trim data may not be accurate.	-1 %	[-1..14] Avg. 6
OBD Standard OBD standards to which this vehicle conforms	OBD I and OBD II	
ATP Throttle Position	1 %	[1..8] Avg. 4
SHORTTF1 Short term fuel trim: Bank 1 - Fuel trim is a key diagnostic parameter and your window into what the computer is doing to control fuel delivery and how the adaptive strategy is operating. STFT and LTFT are expressed as a percentage, with the ideal range being within ±5%. Positive fuel trim percentages indicate that the powertrain control module (PCM) is attempting to enrichen the fuel mixture to compensate for a perceived lean condition. Negative fuel trim percentages indicate that the PCM is attempting to enlean the fuel mixture to compensate for a perceived rich condition. STFT will normally sweep rapidly between enrichment and enleanment, while LTFT will remain more stable. If STFT or LTFT exceeds ±10%, this should alert you to a potential problem. The next step is to determine if the condition exists in more than one operating range. Fuel trim should be checked at idle, at 1500 rpm and at 2500 rpm. For example, if LTFT B1 is 25% at idle but corrects to 4% at both 1500 and 2500 rpm, your diagnosis should focus on factors that can cause a lean condition at idle, such as a vacuum leak. If the condition exists in all rpm ranges, the cause is more likely to be fuel supply-related, such as a bad fuel pump, restricted injectors, etc.Fuel trim can also be used to identify which bank of cylinders is causing a problem. This will work only on bank-to-bank hiel control engines. For example, if LTFT B1 is -20% and LTFT B2 is 3%, the source of the problem is associated with BI cylinders only, and your diagnosis should focus on factors related to BI cylinders only.The following parameters could affect fuel trim or provide additional diagnostic information. Also, even if fuel trim is not a concern, you might find an indication of another problem when reviewing these parameters: Fuel System 1 Status and Fuel System 2 Status should be in closed-loop (CL). If the PCM is not able to achieve CL, the fuel trim data may not be accurate.	0 %	[0..16] Avg. 8
OVB1S1 Oxygen Voltage: Bank 2, Sensor 2 Oxygen Sensor Output Voltage BISI, B2S1, B1S2, etc., are used by the PCM to control fuel mixture. Another use for the oxygen sensors is to detect catalytic converter degradation. The scan tool can be used to check basic sensor operation. Another way to test oxygen sensors is with a graphing scan tool, but you can still use the data grid if graphing is not available on your scanner. Most scan tools on the market now have some form of graphing capability.The process for testing the sensors is simple: The sensor needs to exceed .8 volt and drop below .2 volt, and the transition from low to high and high to low should be quick. In most cases, a good snap throttle test will verify the sensor's ability to achieve the .8 and .2 voltage limits. If this method does not work, use a bottle of propane to manually richen the fuel mixture to check the oxygen sensor's maximum output.	0.415 V / V	[0..0] Avg. 0
Time Adv. Timing Advance	5 i	[4..22] Avg. 13
Fuel Status Fuel system status will display more than just Closed Loop (CL) or Open Loop (OL). You might find one of the following messages: OL-Drive, indicating an open-loop condition during power enrichment or deceleration enleanment; OL-Fault, indicating the PCM is commanding open-loop due to a system fault; CL-Fault, indicating the PCM may he using a different fuel control strategy due to an oxygen sensor fault.	Closed Loop	
R O2S1 Equivalence Ratio: O2S1	1.002 /	[1..1] Avg. 1

Diagnostic Trouble Codes	Description
There no trouble codes found	

Pending diagnostic Trouble Codes	Description
There no pending trouble codes found	

Cleared diagnostic Trouble Codes	Description
There no cleared trouble codes found	