SAE International™

SURFACE VEHICLE RECOMMENDED PRACTICE

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Superseding J2012 APR2002

(R) Diagnostic Trouble Code Definitions

RATIONALE

The prior version of SAE J2012 was technically equivalent to a draft version of ISO 15031-6: April 30, 2002. The ISO document was subsequently edited and published as an International Standard ISO 15031-6:2005, including minor editorial changes. This version of SAE J2012 includes all of the editorial changes that were included in the published version of the ISO document. This version is updated to include; the latest standardized fault codes and failure type byte subfaults, provide a new fault code appendix format and remove certain figures that belong in the SAE J1930 standard.

SAE is offering the current Diagnostic Trouble Code (DTC) and Failure Type Byte (FTB) appendices in a new Digital DTC and FTB appendices web tool.

FOREWORD

On-Board Diagnostic (OBD) regulations require passenger cars, and light and medium duty trucks, to report standardized fault codes for malfunctions detected by the OBD system. This document defines the standardized set of fault codes.

SAE J2012 was originally developed to meet U.S. OBD requirements for 1996 and later model year vehicles. ISO 15031-6 was based on SAE J1962 and was intended to meet European OBD requirements for 2000 and later model year vehicles. This document is technically equivalent to ISO 15031-6, with new and revised fault codes included.

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Tel: 724-776-4970 (outside USA)
Fax: 724-776-0790
Email: CustomerService@sae.org
SAE WEB ADDRESS: http://www.sae.org

1. SCOPE

1.1 Purpose

This document supersedes SAE J2012 APR2002, and is technically equivalent to ISO 15031-6:2005 with the exceptions described in Section 1.2.

This document is intended to define the standardized Diagnostic Trouble Codes (DTC) that On-Board Diagnostic (OBD) systems in vehicles are required to report when malfunctions are detected.

This document includes:

a. Diagnostic Trouble Code format.

b. A standardized set of Diagnostic Trouble Codes and descriptions

c. A standardized set of Diagnostic Trouble Codes subtypes known as Failure Types

1.2 Differences from ISO Document

The differences to the ISO document 15031-6:2005 are the removal of figures in Section 3. The figures have been moved to SAE J1930. The DTC and FTB appendixes have been updated to reflect the latest industry standardized DTC and FTB definitions.

2. REFERENCES

2.1 Applicable Publications

The following publications form a part of this specification to the extent specified herein. Unless otherwise specified, the latest issue of SAE publications shall apply.

2.1.1 SAE Publications

Available from SAE International, 400 Commonwealth Drive, Warrendale, PA 15096-0001, Tel: 877-606-7323 (inside USA and Canada) or 724-776-4970 (outside USA), www.sae.org.

SAE J1930 Electrical/Electronic Systems Diagnostic Terms, Definitions, Abbreviations, and Acronyms

SAE J1978 OBD II Scan Tool

SAE J1979 E/E Diagnostic Test Modes

2.1.2 ISO Publications

Available from ANSI, 25 West 43rd Street, New York, NY 10036-8002, Tel: 212-642-4900, www.ansi.org.

ISO/TR 15031-2:2004 Road vehicles—Communication between vehicle and external equipment for emissions-related diagnostics—Part 2: Terms, definitions, abbreviations and acronyms

ISO 15031-4:2005 Road vehicles—Communication between vehicle and external test equipment for emissions-related diagnostics—Part 4: External test equipment

ISO 15031-5:2006 Road vehicles—Communication between vehicle and external test equipment for emissions-related diagnostics—Part 5: Emissions related diagnostic services

ISO 15031-6:2005 Road vehicles—Communication between vehicle and external test equipment for emissions-related diagnostics—Part 6: Diagnostic trouble code definitions

ISO 14229-1 Road vehicles—Unified diagnostics services (UDS)—Part 1: Specification and requirements

3. DEFINITIONS

This document is not intended to be used for terms and definitions of vehicle component terminology. Many related vehicle technologies are defined in SAE J1930.

3.1 Circuit/Open

Fixed value or no response from the system where specific high or low detection is not feasible or can be used in conjunction with circuit low and high codes where all three circuit conditions can be detected.

3.2 Range/Performance

Circuit is in the normal operating range, but not correct for current operating conditions, it may be used to indicate stuck or skewed values indicating poor performance of a circuit, component, or system.

3.3 Low Input

Circuit voltage, frequency, or other characteristic measured at the control module input terminal or pin that is below the normal operating range.

3.4 High Input

Circuit voltage, frequency, or other characteristic measured at the control module input terminal or pin that is above the normal operating range.

3.5 Bank

Specific group of cylinders sharing a common control sensor, bank 1 always contains cylinder number 1, bank 2 is the opposite bank.

NOTE: If there is only one bank, use bank #1 DTCs and the word bank may be omitted. With a single "bank" system using multiple sensors, use bank #1.

3.6 Sensor Location

Location of a sensor in relation to the engine air flow, starting from the fresh air intake through to the vehicle tailpipe or fuel flow from the fuel tank to the engine in order numbering 1,2,3 and so on.

3.7 Left/Right and Front/Rear

Component identified by its position as if it can be viewed from the drivers seating position.

3.8 "A" "B"

Where components are indicated by a letter (e.g., A, B, C, etc.) this would be manufacturer defined.

3.9 Intermittent/Erratic

The signal is temporarily discontinuous, the duration of the fault is not sufficient to be considered an open or short, or the rate of change is excessive.

4. GENERAL SPECIFICATIONS

The following table specifies systems, code categories, hexadecimal values and particular sections of electrical/electronic systems diagnostic.

TABLE 1 - GENERAL CODE SPECIFICATIONS

System	Code Categories	Hex Value	Appendix
Body	B0*xxx* - B3*xxx*	8*xxx* - B*xxx*	B0
Chassis	C0*xxx* - C3*xxx*	4*xxx* - 7*xxx*	C0
Powertrain	P0*xxx* - P3*xxx*	0*xxx* - 3*xxx*	P0
Network	U0*xxx* - U3*xxx*	C*xxx* - F*xxx*	U0

The recommended DTCs consist of a three digit hexadecimal code preceded by an alphanumeric designator. The alphanumeric designators are "B0", "B1", B2", "B3", "C0", "C1", C2", "C3", "P0", "P1", P2", "P3", "U0", "U1", U2", "U3", corresponding to four sets of body, four sets of chassis, four sets of powertrain and four sets of network trouble codes. The code structure itself is partially open-ended. A portion of the available numeric sequences (portions of "B0", "C0", "P0", “P2”, “P3”, "U0", and “U3”) is reserved for uniform codes assigned by this or future updates. Detailed specifications of the DTC format structure are specified in Section 5.

Most circuit, component, or system diagnostic trouble codes that do not support a subfault strategy are specified by four basic categories:

— General Circuit /Open
— Range/Performance
— Circuit Low
— Circuit High

Circuit Low is measured with the external circuit, component, or system connected. The signal type (voltage, frequency, etc.) shall be included in the message after Circuit Low.

Circuit High is measured with the external circuit, component, or system connected. The signal type (voltage, frequency, etc.) may be included in the message after Circuit High.

5. FORMAT STRUCTURE

5.1 Description

The diagnostic trouble code consists of an alphanumeric designator, B0 -- B3 for body, C0 -- C3 for chassis, P0 -- P3 for powertrain, and U0 -- U3 for network communication, followed by a hexadecimal number. The assignment of the proper alpha designator should be determined by the area most appropriate for that function. In most cases, the alpha designator will be implied since diagnostic information will be requested from a particular controller. However, this does not imply that all codes supported by a particular controller shall have the same alphanumeric designator. The codes are structured as in Figure 1.

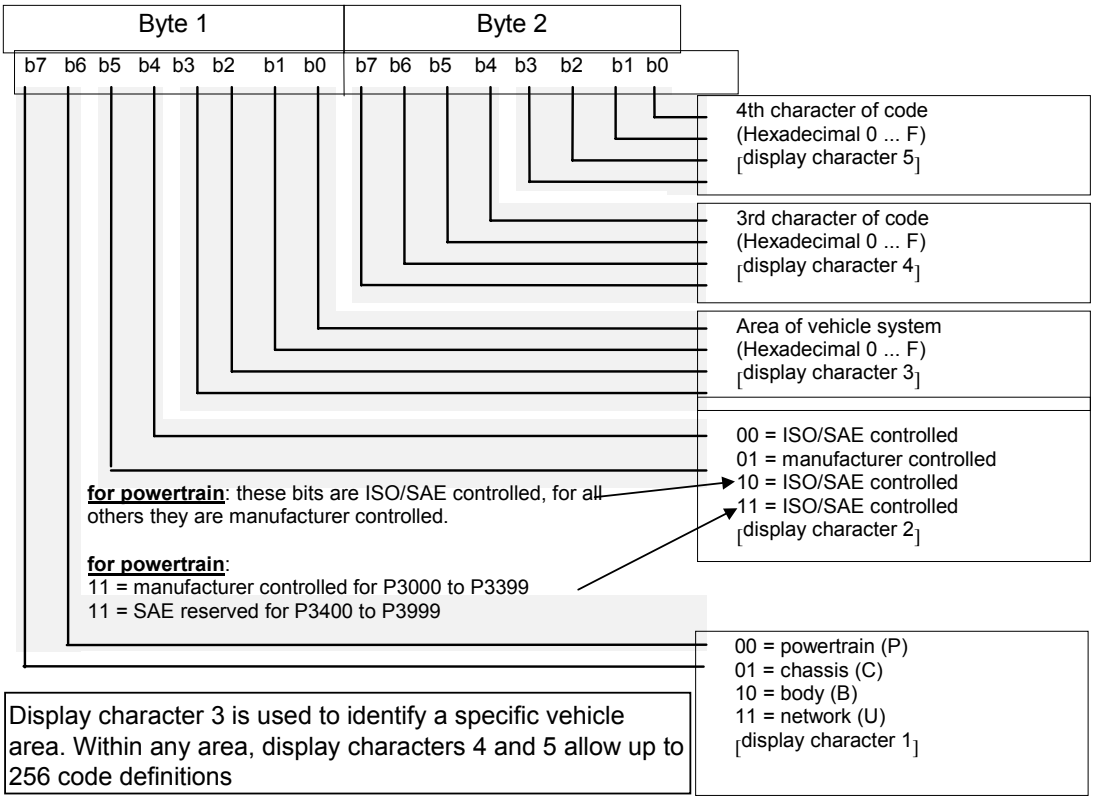

FIGURE 1 - STRUCTURE OF DIAGNOSTIC TROUBLE CODES

EXAMPLE: The 2-byte DTC as a data bus value $9234 would be displayed to technicians as the manufacturer controlled body code B1234, see Figure 2.

DTC HIGH BYTE									DTC LOW BYTE							
$9				$2					$3				$4			
1	0	0	1	0	0	1	0		0	0	1	1	0	1	0	0
B		1		2					3				4			

FIGURE 2 - EXAMPLE OF 2-BYTE DIAGNOSTIC TROUBLE CODE STRUCTURE

EXAMPLE: The 3-byte DTC as a data bus value $923400 would be displayed to technicians as the manufacturer controlled body code B1234-00, see Figure 3. See appendix FTB for DTC Low Byte (Failure Type Byte) definitions. The low byte shall be displayed in hexadecimal format, e.g. $1A shall be displayed as 1A.

DTC HIGH BYTE									DTC MIDDLE BYTE									DTC LOW BYTE								
$9				$2					$3				$4					$0				$0				
1	0	0	1	0	0	1	0		0	0	1	1	0	1	0	0		0	0	0	0	0	0	0	0	
B		1		2					3				4					0				0				

FIGURE 3 - EXAMPLE OF 3-BYTE DIAGNOSTIC TROUBLE CODE STRUCTURE

Codes have been specified to indicate a suspected trouble or problem area and are intended to be used as a directive to the proper service procedure. To minimize service confusion, fault codes should not be used to indicate the absence of problems or the status of parts of the system, (e.g. powertrain system O.K., or MIL activated), but should be confined to indicate areas in need of service attention.

Ranges have been expanded from 100 numbers to 256 by using the hexadecimal base 16 number system.

5.2 ISO/SAE Controlled Codes (Core DTCs)

ISO/SAE controlled diagnostic trouble codes are those codes where industry uniformity has been achieved. These codes are common enough across most manufacturers' applications that a common number and fault message could be assigned. All unspecified numbers in each grouping are ISO/SAE reserved for future growth. Although service procedures may differ widely amongst manufacturers, the fault being indicated is common enough to be assigned a particular fault code. Codes in this area are not to be used by manufacturers until they have been approved by ISO/SAE.

5.3 Manufacturer Controlled Codes (Non-Uniform DTCs)

Areas within each alpha designator have been made available for manufacturer-controlled DTCs. These are fault codes that will not generally be used by a majority of the manufacturers due to basic system differences, implementation differences, or diagnostic strategy differences. Each vehicle manufacturer or supplier who designs and specifies diagnostic algorithms, software, and diagnostic trouble codes are strongly encouraged to remain consistent across their product line when assigning codes in the manufacturer controlled area. For powertrain codes, where possible, the same groupings should be used as in the ISO/SAE controlled area, i.e. 100's and 200's for fuel and air metering, 300's for ignition system or misfire, etc.

While each manufacturer has the ability to define the controlled DTCs to meet their specific controller algorithms, all DTC descriptions shall meet SAE J1930 or ISO 15031-2.

5.4 Body System Groupings

DTC numbers and descriptions are given in appendix B0.

5.4.1 B0XXX ISO/SAE Controlled

5.4.2 B1XXX Manufacturer Controlled

5.4.3 B2XXX Manufacturer Controlled

5.4.4 B3XXX Reserved by Document

5.5 Chassis System Groupings

DTC numbers and descriptions are given in appendix C0.

5.5.1 C0XXX ISO/SAE Controlled

5.5.2 C1XXX Manufacturer Controlled

5.5.3 C2XXX Manufacturer Controlled

5.5.4 C3XXX Reserved by Document

5.6 Powertrain System Groupings

DTC numbers and descriptions are given in appendix P0.

5.6.1 P0XXX ISO/SAE Controlled

5.6.2 P1XXX Manufacturer Control

5.6.3 P2XXX ISO/SAE Controlled

5.6.4 P3XXX Manufacturer Controlled and ISO/SAE Reserved

5.7 Network Groupings

DTC numbers and descriptions are given in appendix U0.

5.7.1 U0XXX ISO/SAE Controlled

5.7.2 U1XXX Manufacturer Controlled

5.7.3 U2XXX Manufacturer Controlled

5.7.4 U3XXX Manufacturer Controlled and ISO/SAE Reserved

6. DIAGNOSTIC TROUBLE CODE DESCRIPTIONS

6.1 Diagnostic Trouble Code Application

Recent developments have expanded the scope of this documentation to include additional DTCs and descriptions for network systems, body systems, and chassis systems. Two different DTC application methods are required depending on the system. Powertrain DTCs require the assignment of a unique DTC number and description for each failure mode (e.g.: circuit low, circuit high, rationality, etc). Body and chassis systems descriptions are more general and require the assignment of a single DTC number and description for each component, not failure mode. Unique body and chassis failure mode identification is still possible, but is dependent upon using diagnostic protocols that support a subfault failure strategy. One example is ISO 14229-1, which uses a “Failure Type Byte” associated with each DTC to describe the failure mode (e.g.: circuit low, circuit high, rationality, etc). However any protocol supporting a subfault strategy will work with these DTCs. Manufacturers must select the appropriate failure mode to apply to the base DTC description.

6.2 Powertrain Systems

The powertrain systems category covers functions that include engine, transmission and associated drivetrain accessories. For powertrain systems, each specified fault code has been assigned a description to indicate the circuit, component or system area that was determined to be at fault. The descriptions are organized such that different descriptions related to a particular sensor or system are grouped together. In cases where there are various fault descriptions for different types of faults, the group also has a "generic" description as the first code/message of the group. A manufacturer has a choice when implementing diagnostics, based on the specific strategy and complexity of the diagnostic.

Where more specific fault descriptions for a circuit, component, or system exist, the manufacturer should choose the code most applicable to their diagnosable fault. The descriptions are intended to be somewhat general to allow manufacturers to use them as often as possible yet still not conflict with their specific repair procedures. The terms "low" and "high" when used in a description, especially those related to input signals, refer to the voltage, frequency, etc. at the pin of the controller. The specific level of "low" and "high" shall be specified by each manufacturer to best meet their needs.

For example, in diagnosing a 5 V reference Throttle Position Sensor (TP Sensor), if the input signal at the Powertrain Control Module (PCM) is stuck at near 0 V, a manufacturer has the flexibility to select from either of two codes - P0120 (Throttle/Pedal Position Sensor/Switch A Circuit) or P0122 (Throttle/Pedal Position Sensor/Switch A Circuit Low), depending on the manufacturer's diagnostic procedures. If the input signal at the PCM is stuck at near 5 V, a manufacturer has the flexibility to select from either of two codes - P0120 (Throttle/Pedal Position Sensor/Switch A Circuit) or P0123 (Throttle/Pedal Position Sensor/Switch A Circuit High), depending on the manufacturer's diagnostic procedures. If the input signal at the PCM is stuck at 1.5 V at idle instead of the expected 1.0 V, the manufacturer has the flexibility to select from either of two codes - P0120 (Throttle/Pedal Position Sensor/Switch A Circuit) or P0121 (Throttle/Pedal Position Sensor/Switch A Circuit Range/Performance), depending on the manufacturer's diagnostic procedures. The root cause of the higher than expected TP Sensor voltage may be either a faulty TP Sensor, corrosion in the TP Sensor connections or an improperly adjusted throttle plate. Identification of the root cause is done using the diagnostic procedures and is not implied by the DTC message, thus allowing the manufacturer the flexibility in assigning DTCs.

6.3 Body Systems

The body systems category covers functions that are, generally, inside of the passenger compartment. These functions provide the vehicle occupants with assistance, comfort, convenience, and safety. Each specified trouble code has been assigned a description to indicate the component or system area that was determined to be at fault. Unlike powertrain systems, the body system trouble code descriptions are intended to be general. Powertrain DTCs typically include separate DTCs for each failure mode (e.g.: circuit low, circuit high, rationality, etc) within each DTC description. Body system DTCs are designed to only support the base component in the description, which makes these DTCs dependent upon diagnostic protocols that support a subfault failure strategy. Manufacturers must select the appropriate failure mode (e.g.: circuit short to ground, circuit short to battery, signal plausibility failure, etc) to apply to the general DTC description. The supported body subsection included in this group is currently Restraints.

6.4 Chassis Systems

The chassis systems category covers functions that are, generally, outside of the passenger compartment. These functions typically include mechanical systems such as brakes, steering and suspension. Each specified trouble code has been assigned a description to indicate the component or system area that was determined to be at fault. Unlike powertrain systems, the chassis system trouble code descriptions are intended to be general. Powertrain DTCs typically include separate DTCs for each failure mode (e.g.: circuit low, circuit high, rationality, etc) within each DTC description. Chassis system DTCs are designed to only support the base component in the description, which makes these DTCs dependent upon diagnostic protocols that support a subfault failure strategy. Manufacturers must select the appropriate failure mode (e.g.: circuit short to ground, circuit short to battery, signal plausibility failure, etc) to apply to the general DTC description. The supported chassis subsections included in this group are currently Brakes and Traction Control.

6.5 Network and Vehicle Integration Systems

The network communication and vehicle integration systems category covers functions that are shared among computers and/or systems on the vehicle. Each specified trouble code has been assigned a description to indicate the component or system area that was determined to be at fault. The descriptions of data links are intended to be general in order to allow manufacturers to use them for different communication protocols. The descriptions of control modules are intended to be general in order to allow manufacturers to reuse the DTC for new control modules as technologies evolve. Also, the descriptions may be supplemented with additional subfault information such as the “Failure Type Byte” data defined in appendix FTB. The subsections included in this group are Network Electrical, Network Communication, Network Software, Network Data, and Control Module/Power Distribution.

7. CHANGE REQUESTS

Use this form to request new industry standard DTCs.

Request Form for New ISO 15031-6/SAE J2012 Controlled DTC

What is the purpose of the component, circuit, or system?

Example: Exhaust Gas Recirculation.

What is the purpose of the diagnostic?

Example: detect low EGR flow

*Requested Group Number*_____

Requested DTC Number _____

Requested DTC Nomenclature _____

Example: EGR Low Flow Detected

Requested by: _____

Phone/Fax _____

Email_____

Address_____

Date:

Please send completed form(s) either to:

FAKRA
Normenausschuß Kraftfahrzeuge
Postfach 17 05 63
D-60079 Frankfurt/Main
Germany
ATTN: ISO/TC22/SC3/WG1

SAE Headquarters
755 West Big Beaver Road
Suite 1600
Troy, MI 48084
USA
ATTN: J2012 Committee Chairman

8. NOTES

8.1 Marginal Indicia

The change bar (l) located in the left margin is for the convenience of the user in locating areas where technical revisions have been made to the previous issue of the report. An (R) symbol to the left of the document title indicates a complete revision of the report.

PREPARED BY THE SAE VEHICLE ELECTRICAL AND ELECTRONICS
DIAGNOSTIC SYSTEMS STANDARDS COMMITTEE

APPENDIX A0 - (NORMATIVE)
DIAGNOSTIC TROUBLE CODE NAMING GUIDELINES

A.1 DISCUSSION

Tables A01, A02, A03, A04 provide guidelines to help in determining DTC descriptions.

Appendix B0 shows applications for recommended industry common trouble codes for the body systems, Appendix C0 shows applications for chassis systems, Appendix P0 shows applications for powertrain systems and Appendix U0 shows applications for network control systems. The DTCs in appendix P0 include systems that might be integrated into an electronic control module that would be used for controlling engine functions, such as fuel, spark, idle speed, and vehicle speed (cruise control), as well as those for transmission control. The fact that a code is recommended as a common industry code does not imply that it is a required code (legislated), an emission related code, nor that it indicates a fault that will cause the malfunction indicator to be illuminated.

TABLE A01 - DTC NAMING GUIDELINES FOR SIGNALS FROM COMPONENTS

Component/System ISO 15031-2/ SAE J1930[(1)]	Acronym ISO 15031-2/ SAEJ1930[(1)]	Modifier (if used)[(1)]	Noun Name[(1)]	Circuit[(1)]	Intermittent (if used)[(1)]	State (if used)[(1)]	Parameter (if used)[(1)]	Location (if used)[(1)]
Throttle Position	TP		Sensor	Circuit		Low	Voltage	
Throttle Position	TP		Sensor	Circuit		Performance		
Manifold Absolute Pressure	MAP		Sensor	Circuit		High	Voltage	
Engine Coolant Temperature	ECT		Sensor	Circuit		Low	Voltage	
Intake Air Temperature	IAT		Sensor	Circuit		High	Voltage	
Vehicle Speed Sensor	VSS		included in acronym	Circuit		High	Voltage	
Vehicle Speed Sensor	VSS		included in acronym	Circuit	Intermittent			
Heated Oxygen Sensor	HO2S		included in acronym	Circuit				
Heated Oxygen Sensor	HO2S		included in acronym	Circuit		Low	Voltage	Bank (B1) Sensor 1 (S1)
Idle Air Control	IAC		Valve	Circuit		Low	Voltage	
Mass Air Flow	MAF		Sensor	Circuit		High	Frequency	
Mass Air Flow	MAF		Sensor	Circuit		Performance		
Knock Sensor	KS		included in acronym	Circuit				Bank 1
Knock Sensor	KS		included in acronym	Circuit		Performance		
Crankshaft Position	CKP		Sensor	Circuit				
Evaporative Emissions	EVAP	Canister Purge	Valve	Circuit				
Engine Speed	RPM		Input	Circuit				
Air Conditioning	A/C	Clutch Status	N/A	Circuit		Low	Voltage	

TABLE A01 - DTC NAMING GUIDELINES FOR SIGNALS FROM COMPONENTS (CONTINUED)

Component/System ISO 15031-2/ SAE J1930[(1)]	Acronym ISO 15031-2/ SAEJ1930[(1)]	Modifier (if used)[(1)]	Noun Name[(1)]	Circuit[(1)]	Intermittent (if used)[(1)]	State (if used)[(1)]	Parameter (if used)[(1)]	Location (if used)[(1)]
Heated Oxygen Sensor	HO2S		included in acronym	Circuit		Transition Time Ratio		Bank 1 (B1) Sensor (S1)
Heated Oxygen Sensor	HO2S		included in acronym	Circuit		Insufficient Switching		Bank 1 (B1) Sensor 1 (S1)
Distributor Ignition	DI	Low Resolution		Circuit	Intermittent			
Distributor Ignition	DI	High Resolution		Circuit				

NOTE 1) The Service Information uses Component/System from ISO 15031-2/SAE J1930 or Acronym from ISO 15031-2/ SAE J1930, Modifier, Noun Name, Circuit, Intermittent, State, Parameter, and Location.

TABLE A02 - DTC NAMING GUIDELINES FOR SIGNALS TO COMPONENTS

Component/System ISO 15031-2/ SAE J1930[(1)]	Acronym ISO 15031-2/ SAEJ1930[(1)]	Modifier (if used)[(1)]	Noun Name[(1)]	Control[(1)]	Circuit[(1)]	Intermittent (if used)[(1)]	State (if used)[(1)]	Parameter (if used)[(1)]	Location (if used)[(1)]
Malfunction Indicator Lamp	MIL		included in acronym	Control	Circuit				
Injector	N/A		N/A	Control	Circuit				
Fan Control	FC	1		Control	Circuit				
Fan Control	FC	2		Control	Circuit		Low		
Exhaust Gas Recirculation	EGR		Solenoid	Control	Circuit		High		
Secondary Air Injection	AIR		Solenoid	Control	Circuit		High		
Evaporative Emissions	EVAP	Purge	Solenoid	Control	Circuit				
Air Conditioning	A/C	Clutch	Relay	Control	Circuit				
Idle Air Control	IAC		Valve	Control	Circuit		Low		
Ignition Control	IC		N/A	included in acronym	Circuit		Low	Voltage	
Ignition Control	IC		N/A	included in acronym	Circuit		High	Voltage	
Torque Converter Clutch	TCC		Solenoid	Control	Circuit		Stuck on		

NOTE 1) The Service Information uses Component/System from ISO 15031-2/SAE J1930 or Acronym from ISO 15031-2/ SAE J1930, Modifier, Noun Name, Circuit, Intermittent, State, Parameter, and Location.

TABLE A03 - DTC NAMING GUIDELINES INVOLVING SEVERAL COMPONENTS OR SYSTEMS

Component/System ISO15031-2/SAE J1930[(1)]	Acronym ISO 15031-2/ SAE J1930[(1)]	Modifier[(1)]	System[(1)]	Intermittent[(1)]	State[(1)]	Parameter[(1)]	Location[(1)]
Exhaust Gas Recirculation	EGR		System				
Fuel Trim	FT		System		Lean		Bank 1
Secondary Air Injection	AIR		System				Bank 1

NOTE 1) The Service Information uses Component/System from ISO 15031-2/SAE J1930 or Acronym from ISO 15031-2/ SAE J1930, Modifier, Noun Name, Circuit, Intermittent, State, Parameter, and Location.

TABLE A04 - DTC NAMING GUIDELINES FOR SIGNALS USING A SUBFAULT STRATEGY

Location	Component/System ISO 15031-2/ SAE J1930[(1)]	Acronym ISO 15031-2/ SAEJ1930[(1)]	Modifier (if used)[(1)]	Noun Name[(1)]	Subfault Failure Type[(2)]
Left Front	Wheel		Speed	Sensor	signal amplitude < minimum
Passenger	Seat		Occupant Classification	Sensor	circuit open
Second Row Left	Seatbelt			Sensor	no sub type information
Driver	Frontal		Stage 1	Deployment Control	circuit resistance out of range

NOTE 1) The Service Information uses Location, Component/System from ISO 15031-2/SAE J1930 or Acronym from ISO 15031-2/SAE J1930, Modifier, Noun Name, and Subfault Failure Type.

NOTE 2) These DTCs require the addition of a failure mode supported via a diagnostic protocol (e.g. ISO 14229-1), which supports DTC subfaults. These are not intended to be used with protocols that do not support a subfault strategy. Reference appendix FTB for recommended Failure Type Byte assignments.

APPENDIX B0 - BODY SYSTEMS

TABLE B1 - B0XXX BODY SYSTEMS

DTC Number	DTC Naming	Location	Foot Note
B0000	ISO/SAE Reserved		
B0001	Driver Frontal Stage 1 Deployment Control (Subfault)		
B0002	Driver Frontal Stage 2 Deployment Control (Subfault)		
B0003	Driver Frontal Stage 3 Deployment Control (Subfault)		
B0004	Driver Knee Bolster Deployment Control (Subfault)		
B0005	Collapsible Steering Column Deployment Control (Subfault)		
B0006	ISO/SAE Reserved		
B0007	ISO/SAE Reserved		
B0008	ISO/SAE Reserved		
B0009	ISO/SAE Reserved		
B000A	ISO/SAE Reserved		
B000B	ISO/SAE Reserved		
B000C	ISO/SAE Reserved		
B000D	ISO/SAE Reserved		
B000E	ISO/SAE Reserved		
B000F	ISO/SAE Reserved		
B0010	Passenger Frontal Stage 1 Deployment Control (Subfault)		
B0011	Passenger Frontal Stage 2 Deployment Control (Subfault)		
B0012	Passenger Frontal Stage 3 Deployment Control (Subfault)		
B0013	Passenger Knee Bolster Deployment Control (Subfault)		
B0014	ISO/SAE Reserved		
B0015	ISO/SAE Reserved		
B0016	ISO/SAE Reserved		
B0017	ISO/SAE Reserved		
B0018	ISO/SAE Reserved		
B0019	ISO/SAE Reserved		
B001A	ISO/SAE Reserved		
B001B	ISO/SAE Reserved		
B001C	ISO/SAE Reserved		
B001D	ISO/SAE Reserved		
B001E	ISO/SAE Reserved		
B001F	ISO/SAE Reserved		
B0020	Left Side Airbag Deployment Control (Subfault)		
B0021	Left Curtain Deployment Control 1 (Subfault)		
B0022	Left Curtain Deployment Control 2 (Subfault)		
B0023	ISO/SAE Reserved		
B0024	ISO/SAE Reserved		
B0025	ISO/SAE Reserved		
B0026	ISO/SAE Reserved		
B0027	ISO/SAE Reserved		
B0028	Right Side Airbag Deployment Control (Subfault)		
B0029	Right Curtain Deployment Control 1 (Subfault)		
B002A	Right Curtain Deployment Control 2 (Subfault)		
B002B	ISO/SAE Reserved		
B002C	ISO/SAE Reserved		
B002D	ISO/SAE Reserved		
B002E	ISO/SAE Reserved		
B002F	ISO/SAE Reserved		

DTC Number	DTC Naming	Location	Foot Note
B0030	Second Row Left Side Airbag Deployment Control (Subfault)		
B0031	Second Row Left Frontal Stage 1 Deployment Control (Subfault)		
B0032	Second Row Left Frontal Stage 2 Deployment Control (Subfault)		
B0033	Second Row Left Frontal Stage 3 Deployment Control (Subfault)		
B0034	ISO/SAE Reserved		
B0035	ISO/SAE Reserved		
B0036	ISO/SAE Reserved		
B0037	ISO/SAE Reserved		
B0038	Second Row Right Side Airbag Deployment Control (Subfault)		
B0039	Second Row Right Frontal Stage 1 Deployment Control (Subfault)		
B003A	Second Row Right Frontal Stage 2 Deployment Control (Subfault)		
B003B	Second Row Right Frontal Stage 3 Deployment Control (Subfault)		
B003C	ISO/SAE Reserved		
B003D	ISO/SAE Reserved		
B003E	ISO/SAE Reserved		
B003F	ISO/SAE Reserved		
B0040	Third Row Left Side Airbag Deployment Control (Subfault)		
B0041	Third Row Left Frontal Stage 1 Deployment Control (Subfault)		
B0042	Third Row Left Frontal Stage 2 Deployment Control (Subfault)		
B0043	Third Row Left Frontal Stage 3 Deployment Control (Subfault)		
B0044	ISO/SAE Reserved		
B0045	ISO/SAE Reserved		
B0046	ISO/SAE Reserved		
B0047	ISO/SAE Reserved		
B0048	Third Row Right Side Airbag Deployment Control (Subfault)		
B0049	Third Row Right Frontal Stage 1 Deployment Control (Subfault)		
B004A	Third Row Right Frontal Stage 2 Deployment Control (Subfault)		
B004B	Third Row Right Frontal Stage 3 Deployment Control (Subfault)		
B004C	ISO/SAE Reserved		
B004D	ISO/SAE Reserved		
B004E	ISO/SAE Reserved		
B004F	ISO/SAE Reserved		
B0050	Driver Seatbelt Sensor (Subfault)		
B0051	First Row Center Seatbelt Sensor (Subfault)		
B0052	Passenger Seatbelt Sensor (Subfault)		
B0053	Second Row Left Seatbelt Sensor (Subfault)		
B0054	Second Row Center Seatbelt Sensor (Subfault)		
B0055	Second Row Right Seatbelt Sensor (Subfault)		
B0056	Third Row Left Seatbelt Sensor (Subfault)		
B0057	Third Row Center Seatbelt Sensor (Subfault)		
B0058	Third Row Right Seatbelt Sensor (Subfault)		
B0059	ISO/SAE Reserved		
B005A	ISO/SAE Reserved		
B005B	ISO/SAE Reserved		
B005C	ISO/SAE Reserved		
B005D	ISO/SAE Reserved		
B005E	ISO/SAE Reserved		
B005F	ISO/SAE Reserved		
B0060	Driver Seatbelt Tension Sensor (Subfault)		
B0061	Passenger Seatbelt Tension Sensor (Subfault)		
B0062	ISO/SAE Reserved		
B0063	ISO/SAE Reserved		

DTC Number	DTC Naming	Location	Foot Note
B0064	ISO/SAE Reserved		
B0065	ISO/SAE Reserved		
B0066	ISO/SAE Reserved		
B0067	ISO/SAE Reserved		
B0068	ISO/SAE Reserved		
B0069	ISO/SAE Reserved		
B006A	ISO/SAE Reserved		
B006B	ISO/SAE Reserved		
B006C	ISO/SAE Reserved		
B006D	ISO/SAE Reserved		
B006E	ISO/SAE Reserved		
B006F	ISO/SAE Reserved		
B0070	Driver Seatbelt Pretensioner "A" Deployment Control (Subfault)		
B0071	First Row Center Seatbelt Pretensioner Deployment Control (Subfault)		
B0072	Passenger Seatbelt Pretensioner "A" Deployment Control (Subfault)		
B0073	Second Row Left Seatbelt Pretensioner Deployment Control (Subfault)		
B0074	Second Row Center Seatbelt Pretensioner Deployment Control (Subfault)		
B0075	Second Row Right Seatbelt Pretensioner Deployment Control (Subfault)		
B0076	Third Row Left Seatbelt Pretensioner Deployment Control (Subfault)		
B0077	Third Row Center Seatbelt Pretensioner Deployment Control (Subfault)		
B0078	Third Row Right Seatbelt Pretensioner Deployment Control (Subfault)		
B0079	Driver Seatbelt Pretensioner "B" Deployment Control (Subfault)		
B007A	Passenger Seatbelt Pretensioner "B" Deployment Control (Subfault)		
B007B	Second Row Left Seatbelt Pretensioner "B" Deployment Control (Subfault)		
B007C	Second Row Right Seatbelt Pretensioner "B" Deployment Control (Subfault)		
B007D	Second Row Center Seatbelt Pretensioner "B" Deployment Control (Subfault)		
B007E	Driver Seatbelt Pretensioner "C" Deployment Control (Subfault)		
B007F	Passenger Seatbelt Pretensioner "C" Deployment Control (Subfault)		
B0080	Driver Seatbelt Load Limiter Deployment Control (Subfault)		
B0081	First Row Center Seatbelt Load Limiter Deployment Control (Subfault)		
B0082	Passenger Seatbelt Load Limiter Deployment Control (Subfault)		
B0083	Second Row Left Seatbelt Load Limiter Deployment Control (Subfault)		
B0084	Second Row Center Seatbelt Load Limiter Deployment Control (Subfault)		
B0085	Second Row Right Seatbelt Load Limiter Deployment Control (Subfault)		
B0086	Third Row Left Seatbelt Load Limiter Deployment Control (Subfault)		
B0087	Third Row Center Seatbelt Load Limiter Deployment Control (Subfault)		
B0088	Third Row Right Seatbelt Load Limiter Deployment Control (Subfault)		
B0089	ISO/SAE Reserved		
B008A	ISO/SAE Reserved		
B008B	ISO/SAE Reserved		
B008C	ISO/SAE Reserved		
B008D	ISO/SAE Reserved		
B008E	ISO/SAE Reserved		
B008F	ISO/SAE Reserved		
B0090	Left Frontal Restraints Sensor (Subfault)		
B0091	Left Side Restraints Sensor 1 (Subfault)		
B0092	Left Side Restraints Sensor 2 (Subfault)		
B0093	Left Side Restraints Sensor 3 (Subfault)		
B0094	Center Frontal Restraints Sensor (Subfault)		
B0095	Right Frontal Restraints Sensor (Subfault)		
B0096	Right Side Restraints Sensor 1 (Subfault)		
B0097	Right Side Restraints Sensor 2 (Subfault)		

DTC Number	DTC Naming	Location	Foot Note
B0098	Right Side Restraints Sensor 3 (Subfault)		
B0099	Roll Over Sensor (Subfault)		
B009A	Left Side Restraints Sensor 4 (Subfault)		
B009B	Left Side Restraints Sensor 5 (Subfault)		
B009C	Left Side Restraints Sensor 6 (Subfault)		
B009D	Right Side Restraints Sensor 4 (Subfault)		
B009E	Right Side Restraints Sensor 5 (Subfault)		
B009F	Right Side Restraints Sensor 6 (Subfault)		
B00A0	Occupant Classification System (Subfault)		
B00A1	Occupant Position System (Subfault)		
B00A2	ISO/SAE Reserved		
B00A3	ISO/SAE Reserved		
B00A4	ISO/SAE Reserved		
B00A5	ISO/SAE Reserved		
B00A6	ISO/SAE Reserved		
B00A7	ISO/SAE Reserved		
B00A8	ISO/SAE Reserved		
B00A9	ISO/SAE Reserved		
B00AA	ISO/SAE Reserved		
B00AB	ISO/SAE Reserved		
B00AC	ISO/SAE Reserved		
B00AD	ISO/SAE Reserved		
B00AE	ISO/SAE Reserved		
B00AF	ISO/SAE Reserved		
B00B0	Driver Seat Occupant Classification Sensor "A" (Subfault)		
B00B1	Driver Seat Occupant Classification Sensor "B" (Subfault)		
B00B2	Driver Seat Occupant Classification Sensor "C" (Subfault)		
B00B3	Driver Seat Occupant Classification Sensor "D" (Subfault)		
B00B4	Driver Seat Occupant Classification Sensor "E" (Subfault)		
B00B5	Driver Seat Track Position Restraints Sensor (Subfault)		
B00B6	Driver Seat Recline Position Restraints Sensor (Subfault)		
B00B7	Driver Seat Occupant Position Sensor "A" (Subfault)		
B00B8	Driver Seat Occupant Position Sensor "B" (Subfault)		
B00B9	Driver Seat Occupant Position Sensor "C" (Subfault)		
B00BA	Driver Seat Occupant Position Sensor "D" (Subfault)		
B00BB	Driver Seat Occupant Position Sensor "E" (Subfault)		
B00BC	ISO/SAE Reserved		
B00BD	ISO/SAE Reserved		
B00BE	ISO/SAE Reserved		
B00BF	ISO/SAE Reserved		
B00C0	Passenger Seat Occupant Classification Sensor "A" (Subfault)		
B00C1	Passenger Seat Occupant Classification Sensor "B" (Subfault)		
B00C2	Passenger Seat Occupant Classification Sensor "C" (Subfault)		
B00C3	Passenger Seat Occupant Classification Sensor "D" (Subfault)		
B00C4	Passenger Seat Occupant Classification Sensor "E" (Subfault)		
B00C5	Passenger Seat Track Position Restraints Sensor (Subfault)		
B00C6	Passenger Seat Recline Position Restraints Sensor (Subfault)		
B00C7	Passenger Seat Occupant Position Sensor "A" (Subfault)		
B00C8	Passenger Seat Occupant Position Sensor "B" (Subfault)		
B00C9	Passenger Seat Occupant Position Sensor "C" (Subfault)		
B00CA	Passenger Seat Occupant Position Sensor "D" (Subfault)		
B00CB	Passenger Seat Occupant Position Sensor "E" (Subfault)		

DTC Number	DTC Naming	Location	Foot Note
B00CC	ISO/SAE Reserved		
B00CD	ISO/SAE Reserved		
B00CE	ISO/SAE Reserved		
B00CF	ISO/SAE Reserved		
B00D0	Driver Seatbelt Indicator (Subfault)		
B00D1	Passenger Seatbelt Indicator (Subfault)		
B00D2	Restraint System Malfunction Indicator 1 (Subfault)		
B00D3	Restraint System Malfunction Indicator 2 (Subfault)		
B00D4	Restraint System Malfunction Audible Indicator (Subfault)		
B00D5	Restraint System Passenger Disable Indicator (Subfault)		
B00D6	ISO/SAE Reserved		
B00D7	ISO/SAE Reserved		
B00D8	ISO/SAE Reserved		
B00D9	ISO/SAE Reserved		
B00DA	ISO/SAE Reserved		
B00DB	ISO/SAE Reserved		
B00DC	ISO/SAE Reserved		
B00DD	ISO/SAE Reserved		
B00DE	ISO/SAE Reserved		
B00DF	Passenger Restraints Disable Switch (Subfault)		
B00E0	Third Row Left Seatbelt Pretensioner "B" Deployment Control (Subfault)		
B00E1	Third Row Right Seatbelt Pretensioner "B" Deployment Control (Subfault)		
B00E2	Third Row Center Seatbelt Pretensioner "B" Deployment Control (Subfault)		
B00E3	Second Row Left Seatbelt Pretensioner "C" Deployment Control (Subfault)		
B00E4	Second Row Right Seatbelt Pretensioner "C" Deployment Control (Subfault)		
B00E5	Second Row Center Seatbelt Pretensioner "C" Deployment Control (Subfault)		
B00E6	Third Row Right Seatbelt Pretensioner "C" Deployment Control (Subfault)		
B00E7	Third Row Left Seatbelt Pretensioner "C" Deployment Control (Subfault)		
B00E8	Third Row Center Seatbelt Pretensioner "C" Deployment Control (Subfault)		
B00E9 – B0FF	ISO/SAE Reserved		

TABLE B2 - B1XXX MANUFACTURER CONTROLLED DTC

DTC Number	DTC Naming	Location	Foot Note
B1000	Manufacturer Controlled DTC		

TABLE B3 - B2XXX MANUFACTURER CONTROLLED DTC

DTC Number	DTC Naming	Location	Foot Note
B2000	Manufacturer Controlled DTC		

TABLE B4 - B3XXX ISO/SAE RESERVED

DTC Number	DTC Naming	Location	Foot Note
B3000	ISO/SAE Reserved		

APPENDIX C0 - CHASSIS SYSTEMS

TABLE C1 - C0XXX BRAKES AND TRACTION CONTROL

DTC Number	DTC Naming	Location	Foot Note
C0000	ISO/SAE Reserved		
C0001	TCS Control Channel "A" Valve 1 (Subfault)		
C0002	TCS Control Channel "A" Valve 2 (Subfault)		
C0003	TCS Control Channel "B" Valve 1 (Subfault)		
C0004	TCS Control Channel "B" Valve 2 (Subfault)		
C0005	ISO/SAE Reserved		
C0006	ISO/SAE Reserved		
C0007	ISO/SAE Reserved		
C0008	ISO/SAE Reserved		
C0009	ISO/SAE Reserved		
C000A	ISO/SAE Reserved		
C000B	ISO/SAE Reserved		
C000C	ISO/SAE Reserved		
C000D	ISO/SAE Reserved		
C000E	ISO/SAE Reserved		
C000F	ISO/SAE Reserved		
C0010	Left Front Inlet Control (Subfault)		
C0011	Left Front Outlet Control (Subfault)		
C0012	Left Front Hydraulic Release Too Long (Subfault)		
C0013	ISO/SAE Reserved		
C0014	Right Front Inlet Control (Subfault)		
C0015	Right Front Outlet Control (Subfault)		
C0016	Right Front Hydraulic Release Too Long (Subfault)		
C0017	ISO/SAE Reserved		
C0018	Left Rear Inlet Control (Subfault)		
C0019	Left Rear Outlet Control (Subfault)		
C001A	Left Rear Hydraulic Release Too Long (Subfault)		
C001B	ISO/SAE Reserved		
C001C	Right Rear Inlet Control (Subfault)		
C001D	Right Rear Outlet Control (Subfault)		
C001E	Right Rear Hydraulic Release Too Long (Subfault)		
C001F	ISO/SAE Reserved		
C0020	ABS Pump Motor Control (Subfault)		
C0021	Brake Booster Performance (Subfault)		
C0022	Brake Booster Solenoid (Subfault)		
C0023	Stop Lamp Control (Subfault)		
C0024	ISO/SAE Reserved		
C0025	ISO/SAE Reserved		
C0026	ISO/SAE Reserved		
C0027	ISO/SAE Reserved		
C0028	ISO/SAE Reserved		
C0029	ISO/SAE Reserved		
C002A	ISO/SAE Reserved		
C002B	ISO/SAE Reserved		
C002C	ISO/SAE Reserved		
C002D	ISO/SAE Reserved		
C002E	ISO/SAE Reserved		
C002F	ISO/SAE Reserved		

DTC Number	DTC Naming	Location	Foot Note
C0030	Left Front Tone Wheel (Subfault)		
C0031	Left Front Wheel Speed Sensor (Subfault)		
C0032	Left Front Wheel Speed Sensor Supply (Subfault)		
C0033	Right Front Tone Wheel (Subfault)		
C0034	Right Front Wheel Speed Sensor (Subfault)		
C0035	Right Front Wheel Speed Sensor Supply (Subfault)		
C0036	Left Rear Tone Wheel (Subfault)		
C0037	Left Rear Wheel Speed Sensor (Subfault)		
C0038	Left Rear Wheel Speed Sensor Supply (Subfault)		
C0039	Right Rear Tone Wheel (Subfault)		
C003A	Right Rear Wheel Speed Sensor (Subfault)		
C003B	Right Rear Wheel Speed Sensor Supply (Subfault)		
C003C	Rear Tone Wheel (Subfault)		
C003D	Rear Wheel Speed Sensor (Subfault)		
C003E	Rear Wheel Speed Sensor Supply (Subfault)		
C003F	ISO/SAE Reserved		
C0040	Brake Pedal Switch "A" (Subfault)		
C0041	Brake Pedal Switch "B" (Subfault)		
C0042	Brake Pedal Position Sensor "Circuit A" (Subfault)		
C0043	Brake Pedal Position Sensor "Circuit B" (Subfault)		
C0044	Brake Pressure Sensor "A" (Subfault)		
C0045	Brake Pressure Sensor "B" (Subfault)		
C0046	Brake Pressure Sensor "A"/"B" (Subfault)		
C0047	Brake Booster Pressure Sensor (Subfault)		
C0048	Brake Booster Travel Sensor (Subfault)		
C0049	Brake Fluid (Subfault)		
C004A	Brake Lining Wear Sensor (Subfault)		
C004B	ISO/SAE Reserved		
C004C	ISO/SAE Reserved		
C004D	ISO/SAE Reserved		
C004E	ISO/SAE Reserved		
C004F	ISO/SAE Reserved		
C0050	ISO/SAE Reserved		
C0051	Steering Wheel Position Sensor (Subfault)		
C0052	Steering Wheel Position Sensor "Signal A" (Subfault)		
C0053	Steering Wheel Position Sensor "Signal B" (Subfault)		
C0054	Steering Wheel Position Sensor "Signal C" (Subfault)		
C0055	Steering Wheel Position Sensor "Signal D" (Subfault)		
C0056	ISO/SAE Reserved		
C0057	ISO/SAE Reserved		
C0058	ISO/SAE Reserved		
C0059	ISO/SAE Reserved		
C005A	ISO/SAE Reserved		
C005B	ISO/SAE Reserved		
C005C	ISO/SAE Reserved		
C005D	ISO/SAE Reserved		
C005E	ISO/SAE Reserved		
C005F	ISO/SAE Reserved		
C0060	ISO/SAE Reserved		
C0061	Lateral Acceleration Sensor (Subfault)		
C0062	Longitudinal Acceleration Sensor (Subfault)		
C0063	Yaw Rate Sensor (Subfault)		

DTC Number	DTC Naming	Location	Foot Note
C0064	Roll Rate Sensor		
C0065	ISO/SAE Reserved		
C0066	ISO/SAE Reserved		
C0067	ISO/SAE Reserved		
C0068	ISO/SAE Reserved		
C0069	Yaw Rate/Longitude Sensors (Subfault)		
C006A	Multi-axis Acceleration Sensor (Subfault)		
C006B	Stability System Active Too Long (Subfault)		
C006C	Stability System		
C006D	ISO/SAE Reserved		
C006E	ISO/SAE Reserved		
C006F	ISO/SAE Reserved		
C0070	ISO/SAE Reserved		
C0071	2/4 Wheel Drive Status Input (Subfault)		
C0072	Brake Temperature Too High (Subfault)		
C0073	Delivered Driving Torque (Subfault)		
C0074	Requested Driving Torque (Subfault)		
C0075	Extended Brake Pedal Travel, output to PCM (Subfault)		
C0076	PWM for Traction Control (Subfault)		
C0077	Low Tire Pressure (Subfault)		
C0078	Tire Diameter (Subfault)		
C0079	Variable Effort Steering (Subfault)		
C007A	ISO/SAE Reserved		
C007B	ISO/SAE Reserved		
C007C	ISO/SAE Reserved		
C007D	ISO/SAE Reserved		
C007E	ISO/SAE Reserved		
C007F	ISO/SAE Reserved		
C0080	ISO/SAE Reserved		
C0081	ABS Malfunction Indicator (Subfault)		
C0082	Brake System Malfunction Indicator (Subfault)		
C0083	Tire Pressure Monitor Malfunction Indicator (Subfault)		
C0084	Traction Active Indicator (Subfault)		
C0085	Traction Disable Indicator (Subfault)		
C0086	Vehicle Dynamics Indicator (Subfault)		
C0087	ISO/SAE Reserved		
C0088	ISO/SAE Reserved		
C0089	TCS Disable Switch (Subfault)		
C008A	TCS Mode Control (Subfault)		
C008B – C0FFF	ISO/SAE Reserved		

TABLE C2 - C1XXX MANUFACTURER CONTROLLED DTC

DTC Number	DTC Naming	Location	Foot Note
C1000	Manufacturer Controlled DTC		

TABLE C3 - C2XXX MANUFACTURER CONTROLLED DTC

DTC Number	DTC Naming	Location	Foot Note
C2000	Manufacturer Controlled DTC		

TABLE C4 - C3XXX ISO/SAE RESERVED

DTC Number	DTC Naming	Location	Foot Note
C3000	ISO/SAE Reserved		

APPENDIX D0 - POWERTRAIN SYSTEMS

TABLE D1 - P00XX FUEL AND AIR METERING

DTC Number	DTC Naming	Location	Foot Note
P0000	ISO/SAE Reserved		
P0001	Fuel Volume Regulator Control Circuit/Open		
P0002	Fuel Volume Regulator Control Circuit Range/Performance		
P0003	Fuel Volume Regulator Control Circuit Low		
P0004	Fuel Volume Regulator Control Circuit High		
P0005	Fuel Shutoff Valve "A" Control Circuit/Open		
P0006	Fuel Shutoff Valve "A" Control Circuit Low		
P0007	Fuel Shutoff Valve "A" Control Circuit High		
P0008	Engine Position System Performance	Bank 1	
P0009	Engine Position System Performance	Bank 2	
P000A	"A" Camshaft Position Slow Response	Bank 1	a
P000B	"B" Camshaft Position Slow Response	Bank 1	b
P000C	"A" Camshaft Position Slow Response	Bank 2	a
P000D	"B" Camshaft Position Slow Response	Bank 2	b
P000E	Fuel Volume Regulator Control Exceeded Learning Limit		
P000F	Fuel System Over Pressure Relief Valve Activated		
P0010	"A" Camshaft Position Actuator Circuit/Open	Bank 1	a
P0011	"A" Camshaft Position - Timing Over-Advanced or System Performance	Bank 1	a
P0012	"A" Camshaft Position - Timing Over-Retarded	Bank 1	a
P0013	"B" Camshaft Position - Actuator Circuit/Open	Bank 1	b
P0014	"B" Camshaft Position - Timing Over-Advanced or System Performance	Bank 1	b
P0015	"B" Camshaft Position - Timing Over-Retarded	Bank 1	b
P0016	Crankshaft Position - Camshaft Position Correlation	Bank 1 Sensor A	
P0017	Crankshaft Position - Camshaft Position Correlation	Bank 1 Sensor B	
P0018	Crankshaft Position - Camshaft Position Correlation	Bank 2 Sensor A	
P0019	Crankshaft Position - Camshaft Position Correlation	Bank 2 Sensor B	
P001A	"A" Camshaft Profile Control Circuit/Open	Bank 1	a
P001B	"A" Camshaft Profile Control Circuit Low	Bank 1	a
P001C	"A" Camshaft Profile Control Circuit High	Bank 1	a
P001D	"A" Camshaft Profile Control Circuit/Open	Bank 2	a
P001E	"A" Camshaft Profile Control Circuit Low	Bank 2	a
P001F	"A" Camshaft Profile Control Circuit High	Bank 2	a
P0020	"A" Camshaft Position Actuator Circuit/Open	Bank 2	a
P0021	"A" Camshaft Position - Timing Over-Advanced or System Performance	Bank 2	a
P0022	"A" Camshaft Position - Timing Over-Retarded	Bank 2	a
P0023	"B" Camshaft Position - Actuator Circuit/Open	Bank 2	b
P0024	"B" Camshaft Position - Timing Over-Advanced or System Performance	Bank 2	b
P0025	"B" Camshaft Position - Timing Over-Retarded	Bank 2	b
P0026	Intake Valve Control Solenoid Circuit Range/Performance	Bank 1	
P0027	Exhaust Valve Control Solenoid Circuit Range/Performance	Bank 1	
P0028	Intake Valve Control Solenoid Circuit Range/Performance	Bank 2	
P0029	Exhaust Valve Control Solenoid Circuit Range/Performance	Bank 2	
P002A	"B" Camshaft Profile Control Circuit/Open	Bank 1	b
P002B	"B" Camshaft Profile Control Circuit Low	Bank 1	b
P002C	"B" Camshaft Profile Control Circuit High	Bank 1	b

DTC Number	DTC Naming	Location	Foot Note
P002D	"B" Camshaft Profile Control Circuit/Open	Bank 2	b
P002E	"B" Camshaft Profile Control Circuit Low	Bank 2	b
P002F	"B" Camshaft Profile Control Circuit High	Bank 2	b
P0030	HO2S Heater Control Circuit	Bank 1 Sensor 1	
P0031	HO2S Heater Control Circuit Low	Bank 1 Sensor 1	
P0032	HO2S Heater Control Circuit High	Bank 1 Sensor 1	
P0033	Turbocharger/Supercharger Bypass Valve Control Circuit		
P0034	Turbocharger/Supercharger Bypass Valve Control Circuit Low		
P0035	Turbocharger/Supercharger Bypass Valve Control Circuit High		
P0036	HO2S Heater Control Circuit	Bank 1 Sensor 2	
P0037	HO2S Heater Control Circuit Low	Bank 1 Sensor 2	
P0038	HO2S Heater Control Circuit High	Bank 1 Sensor 2	
P0039	Turbocharger/Supercharger Bypass Valve Control Circuit Range/Performance		
P003A	Turbocharger/Supercharger Boost Control "A" Position Exceeded Learning Limit		
P003B	Turbocharger/Supercharger Boost Control "B" Position Exceeded Learning Limit		
P003C	"A" Camshaft Profile Control Performance/Stuck Off	Bank 1	
P003D	"A" Camshaft Profile Control Stuck On	Bank 1	
P003E	"A" Camshaft Profile Control Performance/Stuck Off	Bank 2	
P003F	"A" Camshaft Profile Control Stuck On	Bank 2	
P0040	O2 Sensor Signals Swapped Bank 1 Sensor 1/Bank 2 Sensor 1		
P0041	O2 Sensor Signals Swapped Bank 1 Sensor 2/Bank 2 Sensor 2		
P0042	HO2S Heater Control Circuit	Bank 1 Sensor 3	
P0043	HO2S Heater Control Circuit Low	Bank 1 Sensor 3	
P0044	HO2S Heater Control Circuit High	Bank 1 Sensor 3	
P0045	Turbocharger/Supercharger Boost Control "A" Circuit/Open		
P0046	Turbocharger/Supercharger Boost Control "A" Circuit Range/Performance		
P0047	Turbocharger/Supercharger Boost Control "A" Circuit Low		
P0048	Turbocharger/Supercharger Boost Control "A" Circuit High		
P0049	Turbocharger/Supercharger Turbine Overspeed		
P004A	Turbocharger/Supercharger Boost Control "B" Circuit/Open		
P004B	Turbocharger/Supercharger Boost Control "B" Circuit Range/Performance		
P004C	Turbocharger/Supercharger Boost Control "B" Circuit Low		
P004D	Turbocharger/Supercharger Boost Control "B" Circuit High		
P004E	Turbocharger/Supercharger Boost Control "A" Circuit Intermittent/Erratic		
P004F	Turbocharger/Supercharger Boost Control "B" Circuit Intermittent/Erratic		
P0050	HO2S Heater Control Circuit	Bank 2 Sensor 1	
P0051	HO2S Heater Control Circuit Low	Bank 2 Sensor 1	
P0052	HO2S Heater Control Circuit High	Bank 2 Sensor 1	
P0053	HO2S Heater Resistance	Bank 1 Sensor 1	
P0054	HO2S Heater Resistance	Bank 1 Sensor 2	
P0055	HO2S Heater Resistance	Bank 1 Sensor 3	
P0056	HO2S Heater Control Circuit	Bank 2 Sensor 2	
P0057	HO2S Heater Control Circuit Low	Bank 2 Sensor 2	
P0058	HO2S Heater Control Circuit High	Bank 2 Sensor 2	
P0059	HO2S Heater Resistance	Bank 2 Sensor 1	
P005A	"B" Camshaft Profile Control Performance/Stuck Off	Bank 1	b
P005B	"B" Camshaft Profile Control Stuck On	Bank 1	b

DTC Number	DTC Naming	Location	Foot Note
P005C	"B" Camshaft Profile Control Performance/Stuck Off	Bank 2	b
P005D	"B" Camshaft Profile Control Stuck On	Bank 2	b
P005E	Turbocharger/Supercharger Boost Control "B" Supply Voltage Circuit Low		
P005F	Turbocharger/Supercharger Boost Control "B" Supply Voltage Circuit High		
P0060	HO2S Heater Resistance	Bank 2 Sensor 2	
P0061	HO2S Heater Resistance	Bank 2 Sensor 3	
P0062	HO2S Heater Control Circuit	Bank 2 Sensor 3	
P0063	HO2S Heater Control Circuit Low	Bank 2 Sensor 3	
P0064	HO2S Heater Control Circuit High	Bank 2 Sensor 3	
P0065	Air Assisted Injector Control Range/Performance		
P0066	Air Assisted Injector Control Circuit or Circuit Low		
P0067	Air Assisted Injector Control Circuit High		
P0068	MAP/MAF - Throttle Position Correlation		
P0069	Manifold Absolute Pressure - Barometric Pressure Correlation		
P006A	MAP - Mass or Volume Air Flow Correlation	Bank 1	
P006B	MAP - Exhaust Pressure Correlation		
P006C	MAP - Turbocharger/Supercharger Inlet Pressure Correlation		
P006D	Barometric Pressure - Turbocharger/Supercharger Inlet Pressure Correlation		
P006E	Turbocharger/Supercharger Boost Control "A" Supply Voltage Circuit Low		
P006F	Turbocharger/Supercharger Boost Control "A" Supply Voltage Circuit High		
P0070	Ambient Air Temperature Sensor Circuit		
P0071	Ambient Air Temperature Sensor Range/Performance		
P0072	Ambient Air Temperature Sensor Circuit Low		
P0073	Ambient Air Temperature Sensor Circuit High		
P0074	Ambient Air Temperature Sensor Circuit Intermittent		
P0075	Intake Valve Control Solenoid Circuit	Bank 1	
P0076	Intake Valve Control Solenoid Circuit Low	Bank 1	
P0077	Intake Valve Control Solenoid Circuit High	Bank 1	
P0078	Exhaust Valve Control Solenoid Circuit	Bank 1	
P0079	Exhaust Valve Control Solenoid Circuit Low	Bank 1	
P007A	Charge Air Cooler Temperature Sensor Circuit	Bank 1	
P007B	Charge Air Cooler Temperature Sensor Circuit Range/Performance	Bank 1	
P007C	Charge Air Cooler Temperature Sensor Circuit Low	Bank 1	
P007D	Charge Air Cooler Temperature Sensor Circuit High	Bank 1	
P007E	Charge Air Cooler Temperature Sensor Circuit Intermittent/Erratic	Bank 1	
P007F	Charge Air Cooler Temperature Sensor Bank1/Bank2 Correlation		
P0080	Exhaust Valve Control Solenoid Circuit High	Bank 1	
P0081	Intake Valve Control Solenoid Circuit	Bank 2	
P0082	Intake Valve Control Solenoid Circuit Low	Bank 2	
P0083	Intake Valve Control Solenoid Circuit High	Bank 2	
P0084	Exhaust Valve Control Solenoid Circuit	Bank 2	
P0085	Exhaust Valve Control Solenoid Circuit Low	Bank 2	
P0086	Exhaust Valve Control Solenoid Circuit High	Bank 2	
P0087	Fuel Rail/System Pressure - Too Low		
P0088	Fuel Rail/System Pressure - Too High		
P0089	Fuel Pressure Regulator 1 Performance		
P008A	Low Pressure Fuel System Pressure - Too Low		

DTC Number	DTC Naming	Location	Foot Note
P008B	Low Pressure Fuel System Pressure - Too High		
P008C	Fuel Cooler Pump Control Circuit/Open		
P008D	Fuel Cooler Pump Control Circuit Low		
P008E	Fuel Cooler Pump Control Circuit High		
P008F	Engine Coolant Temperature/Fuel Temperature Correlation		
P0090	Fuel Pressure Regulator 1 Control Circuit/Open		
P0091	Fuel Pressure Regulator 1 Control Circuit Low		
P0092	Fuel Pressure Regulator 1 Control Circuit High		
P0093	Fuel System Leak Detected - Large Leak		
P0094	Fuel System Leak Detected - Small Leak		
P0095	Intake Air Temperature Sensor 2 Circuit	Bank 1	
P0096	Intake Air Temperature Sensor 2 Circuit Range/Performance	Bank 1	
P0097	Intake Air Temperature Sensor 2 Circuit Low	Bank 1	
P0098	Intake Air Temperature Sensor 2 Circuit High	Bank 1	
P0099	Intake Air Temperature Sensor 2 Circuit Intermittent/Erratic	Bank 1	
P009A	Intake Air Temperature/Ambient Air Temperature Correlation		
P009B	Fuel Pressure Relief Control Circuit/Open		
P009C	Fuel Pressure Relief Control Circuit Low		
P009D	Fuel Pressure Relief Control Circuit High		
P009E	Fuel Pressure Relief Control Performance/Stuck Off		
P009F	Fuel Pressure Relief Control Stuck On		
P00A0	Charge Air Cooler Temperature Sensor Circuit	Bank 2	
P00A1	Charge Air Cooler Temperature Sensor Circuit Range/Performance	Bank 2	
P00A2	Charge Air Cooler Temperature Sensor Circuit Low	Bank 2	
P00A3	Charge Air Cooler Temperature Sensor Circuit High	Bank 2	
P00A4	Charge Air Cooler Temperature Sensor Circuit Intermittent/Erratic	Bank 2	
P00A5	Intake Air Temperature Sensor 2 Circuit	Bank 2	
P00A6	Intake Air Temperature Sensor 2 Circuit Range/Performance	Bank 2	
P00A7	Intake Air Temperature Sensor 2 Circuit Low	Bank 2	
P00A8	Intake Air Temperature Sensor 2 Circuit High	Bank 2	
P00A9	Intake Air Temperature Sensor 2 Circuit Intermittent/Erratic	Bank 2	
P00AA	Intake Air Temperature Sensor 1 Circuit	Bank 2	
P00AB	Intake Air Temperature Sensor 1 Circuit Range/Performance	Bank 2	
P00AC	Intake Air Temperature Sensor 1 Circuit Low	Bank 2	
P00AD	Intake Air Temperature Sensor 1 Circuit High	Bank 2	
P00AE	Intake Air Temperature Sensor 1 Circuit Intermittent	Bank 2	
P00AF	Turbocharger/Supercharger Boost Control "A" Module Performance		
P00B0	Turbocharger/Supercharger Boost Control "B" Module Performance		
P00B1	Radiator Coolant Temperature Sensor Circuit		
P00B2	Radiator Coolant Temperature Sensor Circuit Range/Performance		
P00B3	Radiator Coolant Temperature Sensor Circuit Low		
P00B4	Radiator Coolant Temperature Sensor Circuit High		
P00B5	Radiator Coolant Temperature Sensor Circuit Intermittent/Erratic		
P00B6	Radiator Coolant Temperature/Engine Coolant Temperature Correlation		
P00B7	Engine Coolant Flow Low/Performance		
P00B8	MAP - Mass or Volume Air Flow Correlation	Bank 2	
P00B9	Low Pressure Fuel System Pressure - Too Low, Low Ambient Temperature		
P00BA	Low Fuel Pressure - Forced Limited Power		

DTC Number	DTC Naming	Location	Foot Note
P00BB	Fuel Injector Insufficient Flow - Forced Limited Power		
P00BC	Mass or Volume Air Flow "A" Circuit Range/Performance - Air Flow Too Low		
P00BD	Mass or Volume Air Flow "A" Circuit Range/Performance - Air Flow Too High		
P00BE	Mass or Volume Air Flow "B" Circuit Range/Performance - Air Flow Too Low		
P00BF	Mass or Volume Air Flow "B" Circuit Range/Performance - Air Flow Too High		
P00C0 – P00FF	ISO/SAE Reserved		

a) The "A" camshaft shall be either the "intake," "left," or "front" camshaft. Left/Right and Front/Rear are determined as if viewed from the driver's seating position. Bank 1 contains cylinder number one, Bank 2 is the opposite bank.

b) The "B" camshaft shall be either the "exhaust," "right," or "rear" camshaft. Left/Right and Front/Rear are determined as if viewed from the driver's seating position. Bank 1 contains cylinder number one, Bank 2 is the opposite bank.

TABLE D2 - P01XX FUEL AND AIR METERING

DTC Number	DTC Naming	Location	Foot Note
P0100	Mass or Volume Air Flow "A" Circuit		
P0101	Mass or Volume Air Flow "A" Circuit Range/Performance		
P0102	Mass or Volume Air Flow "A" Circuit Low		
P0103	Mass or Volume Air Flow "A" Circuit High		
P0104	Mass or Volume Air Flow "A" Circuit Intermittent		
P0105	Manifold Absolute Pressure/Barometric Pressure Circuit		
P0106	Manifold Absolute Pressure/Barometric Pressure Circuit Range/Performance		
P0107	Manifold Absolute Pressure/Barometric Pressure Circuit Low		
P0108	Manifold Absolute Pressure/Barometric Pressure Circuit High		
P0109	Manifold Absolute Pressure/Barometric Pressure Circuit Intermittent		
P010A	Mass or Volume Air Flow "B" Circuit		
P010B	Mass or Volume Air Flow "B" Circuit Range/Performance		
P010C	Mass or Volume Air Flow "B" Circuit Low		
P010D	Mass or Volume Air Flow "B" Circuit High		
P010E	Mass or Volume Air Flow "B" Circuit Intermittent/Erratic		
P010F	Mass or Volume Air Flow Sensor A/B Correlation		
P0110	Intake Air Temperature Sensor 1 Circuit	Bank 1	
P0111	Intake Air Temperature Sensor 1 Circuit Range/Performance	Bank 1	
P0112	Intake Air Temperature Sensor 1 Circuit Low	Bank 1	
P0113	Intake Air Temperature Sensor 1 Circuit High	Bank 1	
P0114	Intake Air Temperature Sensor 1 Circuit Intermittent	Bank 1	
P0115	Engine Coolant Temperature Sensor 1 Circuit		
P0116	Engine Coolant Temperature Sensor 1 Circuit Range/Performance		
P0117	Engine Coolant Temperature Sensor 1 Circuit Low		
P0118	Engine Coolant Temperature Sensor 1 Circuit High		
P0119	Engine Coolant Temperature Sensor 1 Circuit Intermittent		
P011A	Engine Coolant Temperature Sensor 1/2 Correlation		
P011B	Engine Coolant Temperature/Intake Air Temperature Correlation		
P011C	Charge Air Temperature/Intake Air Temperature Correlation	Bank 1	
P011D	Charge Air Temperature/Intake Air Temperature Correlation	Bank 2	
P011E	ISO/SAE Reserved		
P011F	ISO/SAE Reserved		
P0120	Throttle/Pedal Position Sensor/Switch "A" Circuit		
P0121	Throttle/Pedal Position Sensor/Switch "A" Circuit Range/Performance		

DTC Number	DTC Naming	Location	Foot Note
P0122	Throttle/Pedal Position Sensor/Switch "A" Circuit Low		
P0123	Throttle/Pedal Position Sensor/Switch "A" Circuit High		
P0124	Throttle/Pedal Position Sensor/Switch "A" Circuit Intermittent		
P0125	Insufficient Coolant Temperature for Closed Loop Fuel Control		
P0126	Insufficient Coolant Temperature for Stable Operation		
P0127	Intake Air Temperature Too High		
P0128	Coolant Thermostat (Coolant Temperature Below Thermostat Regulating Temperature)		
P0129	Barometric Pressure Too Low		
P012A	Turbocharger/Supercharger Inlet Pressure Sensor Circuit	Downstream of throttle valve	
P012B	Turbocharger/Supercharger Inlet Pressure Sensor Circuit Range/Performance	Downstream of throttle valve	
P012C	Turbocharger/Supercharger Inlet Pressure Sensor Circuit Low	Downstream of throttle valve	
P012D	Turbocharger/Supercharger Inlet Pressure Sensor Circuit High	Downstream of throttle valve	
P012E	Turbocharger/Supercharger Inlet Pressure Sensor Circuit Intermittent/Erratic	Downstream of throttle valve	
P012F	ISO/SAE Reserved		
P0130	O2 Sensor Circuit	Bank 1 Sensor 1	
P0131	O2 Sensor Circuit Low Voltage	Bank 1 Sensor 1	
P0132	O2 Sensor Circuit High Voltage	Bank 1 Sensor 1	
P0133	O2 Sensor Circuit Slow Response	Bank 1 Sensor 1	
P0134	O2 Sensor Circuit No Activity Detected	Bank 1 Sensor 1	
P0135	O2 Sensor Heater Circuit	Bank 1 Sensor 1	
P0136	O2 Sensor Circuit	Bank 1 Sensor 2	
P0137	O2 Sensor Circuit Low Voltage	Bank 1 Sensor 2	
P0138	O2 Sensor Circuit High Voltage	Bank 1 Sensor 2	
P0139	O2 Sensor Circuit Slow Response	Bank 1 Sensor 2	
P013A	O2 Sensor Slow Response - Rich to Lean	Bank 1 Sensor 2	
P013B	O2 Sensor Slow Response - Lean to Rich	Bank 1 Sensor 2	
P013C	O2 Sensor Slow Response - Rich to Lean	Bank 2 Sensor 2	
P013D	O2 Sensor Slow Response - Lean to Rich	Bank 2 Sensor 2	
P013E	O2 Sensor Delayed Response - Rich to Lean	Bank 1 Sensor 2	
P013F	O2 Sensor Delayed Response - Lean to Rich	Bank 1 Sensor 2	
P0140	O2 Sensor Circuit No Activity Detected	Bank 1 Sensor 2	
P0141	O2 Sensor Heater Circuit	Bank 1 Sensor 2	
P0142	O2 Sensor Circuit	Bank 1 Sensor 3	
P0143	O2 Sensor Circuit Low Voltage	Bank 1 Sensor 3	
P0144	O2 Sensor Circuit High Voltage	Bank 1 Sensor 3	
P0145	O2 Sensor Circuit Slow Response	Bank 1 Sensor 3	
P0146	O2 Sensor Circuit No Activity Detected	Bank 1 Sensor 3	
P0147	O2 Sensor Heater Circuit	Bank 1 Sensor 3	
P0148	Fuel Delivery Error		
P0149	Fuel Timing Error		
P014A	O2 Sensor Delayed Response - Rich to Lean	Bank 2 Sensor 2	
P014B	O2 Sensor Delayed Response - Lean to Rich	Bank 2 Sensor 2	
P014C	O2 Sensor Slow Response - Rich to Lean	Bank 1 Sensor 1	
P014D	O2 Sensor Slow Response - Lean to Rich	Bank 1 Sensor 1	
P014E	O2 Sensor Slow Response - Rich to Lean	Bank 2 Sensor 1	
P014F	O2 Sensor Slow Response - Lean to Rich	Bank 2 Sensor 1	
P0150	O2 Sensor Circuit	Bank 2 Sensor 1	

DTC Number	DTC Naming	Location	Foot Note
P0151	O2 Sensor Circuit Low Voltage	Bank 2 Sensor 1	
P0152	O2 Sensor Circuit High Voltage	Bank 2 Sensor 1	
P0153	O2 Sensor Circuit Slow Response	Bank 2 Sensor 1	
P0154	O2 Sensor Circuit No Activity Detected	Bank 2 Sensor 1	
P0155	O2 Sensor Heater Circuit	Bank 2 Sensor 1	
P0156	O2 Sensor Circuit	Bank 2 Sensor 2	
P0157	O2 Sensor Circuit Low Voltage	Bank 2 Sensor 2	
P0158	O2 Sensor Circuit High Voltage	Bank 2 Sensor 2	
P0159	O2 Sensor Circuit Slow Response	Bank 2 Sensor 2	
P015A	O2 Sensor Delayed Response - Rich to Lean	Bank 1 Sensor 1	
P015B	O2 Sensor Delayed Response - Lean to Rich	Bank 1 Sensor 1	
P015C	O2 Sensor Delayed Response - Rich to Lean	Bank 2 Sensor 1	
P015D	O2 Sensor Delayed Response - Lean to Rich	Bank 2 Sensor 1	
P015E	ISO/SAE Reserved		
P015F	ISO/SAE Reserved		
P0160	O2 Sensor Circuit No Activity Detected	Bank 2 Sensor 2	
P0161	O2 Sensor Heater Circuit	Bank 2 Sensor 2	
P0162	O2 Sensor Circuit	Bank 2 Sensor 3	
P0163	O2 Sensor Circuit Low Voltage	Bank 2 Sensor 3	
P0164	O2 Sensor Circuit High Voltage	Bank 2 Sensor 3	
P0165	O2 Sensor Circuit Slow Response	Bank 2 Sensor 3	
P0166	O2 Sensor Circuit No Activity Detected	Bank 2 Sensor 3	
P0167	O2 Sensor Heater Circuit	Bank 2 Sensor 3	
P0168	Fuel Temperature Too High		
P0169	Incorrect Fuel Composition		
P016A	ISO/SAE Reserved		
P016B	ISO/SAE Reserved		
P016C	ISO/SAE Reserved		
P016D	ISO/SAE Reserved		
P016E	ISO/SAE Reserved		
P016F	ISO/SAE Reserved		
P0170	Fuel Trim	Bank 1	
P0171	System Too Lean	Bank 1	
P0172	System Too Rich	Bank 1	
P0173	Fuel Trim	Bank 2	
P0174	System Too Lean	Bank 2	
P0175	System Too Rich	Bank 2	
P0176	Fuel Composition Sensor Circuit		
P0177	Fuel Composition Sensor Circuit Range/Performance		
P0178	Fuel Composition Sensor Circuit Low		
P0179	Fuel Composition Sensor Circuit High		
P017A	ISO/SAE Reserved		
P017B	ISO/SAE Reserved		
P017C	ISO/SAE Reserved		
P017D	ISO/SAE Reserved		
P017E	ISO/SAE Reserved		
P017F	ISO/SAE Reserved		
P0180	Fuel Temperature Sensor "A" Circuit		
P0181	Fuel Temperature Sensor "A" Circuit Range/Performance		
P0182	Fuel Temperature Sensor "A" Circuit Low		
P0183	Fuel Temperature Sensor "A" Circuit High		
P0184	Fuel Temperature Sensor "A" Circuit Intermittent		

DTC Number	DTC Naming	Location	Foot Note
P0185	Fuel Temperature Sensor "B" Circuit		
P0186	Fuel Temperature Sensor "B" Circuit Range/Performance		
P0187	Fuel Temperature Sensor "B" Circuit Low		
P0188	Fuel Temperature Sensor "B" Circuit High		
P0189	Fuel Temperature Sensor "B" Circuit Intermittent		
P018A	Fuel Pressure Sensor "B" Circuit		
P018B	Fuel Pressure Sensor "B" Circuit Range/Performance		
P018C	Fuel Pressure Sensor "B" Circuit Low		
P018D	Fuel Pressure Sensor "B" Circuit High		
P018E	Fuel Pressure Sensor "B" Circuit Intermittent/Erratic		
P018F	Fuel System Over Pressure Relief Valve Frequent Activation		
P0190	Fuel Rail Pressure Sensor "A" Circuit		
P0191	Fuel Rail Pressure Sensor "A" Circuit Range/Performance		
P0192	Fuel Rail Pressure Sensor "A" Circuit Low		
P0193	Fuel Rail Pressure Sensor "A" Circuit High		
P0194	Fuel Rail Pressure Sensor "A" Circuit Intermittent/Erratic		
P0195	Engine Oil Temperature Sensor Circuit		
P0196	Engine Oil Temperature Sensor Range/Performance		
P0197	Engine Oil Temperature Sensor Circuit Low		
P0198	Engine Oil Temperature Sensor Circuit High		
P0199	Engine Oil Temperature Sensor Circuit Intermittent/Erratic		
P019A – P01FF	ISO/SAE Reserved		

TABLE D3 - P02XX FUEL AND AIR METERING

DTC Number	DTC Naming	Location	Foot Note
P0200	Injector Circuit/Open		
P0201	Injector Circuit/Open - Cylinder 1		
P0202	Injector Circuit/Open - Cylinder 2		
P0203	Injector Circuit/Open - Cylinder 3		
P0204	Injector Circuit/Open - Cylinder 4		
P0205	Injector Circuit/Open - Cylinder 5		
P0206	Injector Circuit/Open - Cylinder 6		
P0207	Injector Circuit/Open - Cylinder 7		
P0208	Injector Circuit/Open - Cylinder 8		
P0209	Injector Circuit/Open - Cylinder 9		
P020A	Cylinder 1 Injection Timing		
P020B	Cylinder 2 Injection Timing		
P020C	Cylinder 3 Injection Timing		
P020D	Cylinder 4 Injection Timing		
P020E	Cylinder 5 Injection Timing		
P020F	Cylinder 6 Injection Timing		
P0210	Injector Circuit/Open - Cylinder 10		
P0211	Injector Circuit/Open - Cylinder 11		
P0212	Injector Circuit/Open - Cylinder 12		
P0213	Cold Start Injector 1		
P0214	Cold Start Injector 2		
P0215	Engine Shutoff Solenoid		
P0216	Injector/Injection Timing Control Circuit		
P0217	Engine Coolant Over Temperature Condition		
P0218	Transmission Fluid Over Temperature Condition		
P0219	Engine Overspeed Condition		

DTC Number	DTC Naming	Location	Foot Note
P021A	Cylinder 7 Injection Timing		
P021B	Cylinder 8 Injection Timing		
P021C	Cylinder 9 Injection Timing		
P021D	Cylinder 10 Injection Timing		
P021E	Cylinder 11 Injection Timing		
P021F	Cylinder 12 Injection Timing		
P0220	Throttle/Pedal Position Sensor/Switch "B" Circuit		
P0221	Throttle/Pedal Position Sensor/Switch "B" Circuit Range/Performance		
P0222	Throttle/Pedal Position Sensor/Switch "B" Circuit Low		
P0223	Throttle/Pedal Position Sensor/Switch "B" Circuit High		
P0224	Throttle/Pedal Position Sensor/Switch "B" Circuit Intermittent		
P0225	Throttle/Pedal Position Sensor/Switch "C" Circuit		
P0226	Throttle/Pedal Position Sensor/Switch "C" Circuit Range/Performance		
P0227	Throttle/Pedal Position Sensor/Switch "C" Circuit Low		
P0228	Throttle/Pedal Position Sensor/Switch "C" Circuit High		
P0229	Throttle/Pedal Position Sensor/Switch "C" Circuit Intermittent		
P022A	Charge Air Cooler Bypass Control "A" Circuit /Open		
P022B	Charge Air Cooler Bypass Control "A" Circuit Low		
P022C	Charge Air Cooler Bypass Control "A" Circuit High		
P022D	Charge Air Cooler Bypass Control "B" Circuit /Open		
P022E	Charge Air Cooler Bypass Control "B" Circuit Low		
P022F	Charge Air Cooler Bypass Control "B" Circuit High		
P0230	Fuel Pump Primary Circuit		
P0231	Fuel Pump Secondary Circuit Low		
P0232	Fuel Pump Secondary Circuit High		
P0233	Fuel Pump Secondary Circuit Intermittent		
P0234	Turbocharger/Supercharger "A" Overboost Condition		
P0235	Turbocharger/Supercharger Boost Sensor "A" Circuit		
P0236	Turbocharger/Supercharger Boost Sensor "A" Circuit Range/Performance		
P0237	Turbocharger/Supercharger Boost Sensor "A" Circuit Low		
P0238	Turbocharger/Supercharger Boost Sensor "A" Circuit High		
P0239	Turbocharger/Supercharger Boost Sensor "B" Circuit		
P023A	Charge Air Cooler Coolant Pump Control Circuit/Open		
P023B	Charge Air Cooler Coolant Pump Control Circuit Low		
P023C	Charge Air Cooler Coolant Pump Control Circuit High		
P023D	Manifold Absolute Pressure - Turbocharger/Supercharger Boost Sensor "A" Correlation		
P023E	Manifold Absolute Pressure - Turbocharger/Supercharger Boost Sensor "B" Correlation		
P023F	Fuel Pump Secondary Circuit/Open		
P0240	Turbocharger/Supercharger Boost Sensor "B" Circuit Range/Performance		
P0241	Turbocharger/Supercharger Boost Sensor "B" Circuit Low		
P0242	Turbocharger/Supercharger Boost Sensor "B" Circuit High		
P0243	Turbocharger/Supercharger Wastegate Solenoid "A"		
P0244	Turbocharger/Supercharger Wastegate Solenoid "A" Range/Performance		
P0245	Turbocharger/Supercharger Wastegate Solenoid "A" Low		
P0246	Turbocharger/Supercharger Wastegate Solenoid "A" High		
P0247	Turbocharger/Supercharger Wastegate Solenoid "B"		
P0248	Turbocharger/Supercharger Wastegate Solenoid "B"		

DTC Number	DTC Naming	Location	Foot Note
	Range/Performance		
P0249	Turbocharger/Supercharger Wastegate Solenoid "B" Low		
P024A	Charge Air Cooler Bypass Control "A" Range/Performance		
P024B	Charge Air Cooler Bypass Control "A" Stuck		
P024C	Charge Air Cooler Bypass Position Sensor "A" Circuit		
P024D	Charge Air Cooler Bypass Position Sensor "A" Circuit Range/Performance		
P024E	Charge Air Cooler Bypass Position Sensor "A" Circuit Low		
P024F	Charge Air Cooler Bypass Position Sensor "A" Circuit High		
P0250	Turbocharger/Supercharger Wastegate Solenoid "B" High		
P0251	Injection Pump Fuel Metering Control "A" (Cam/Rotor/Injector)		
P0252	Injection Pump Fuel Metering Control "A" Range/Performance (Cam/Rotor/Injector)		
P0253	Injection Pump Fuel Metering Control "A" Low (Cam/Rotor/Injector)		
P0254	Injection Pump Fuel Metering Control "A" High (Cam/Rotor/Injector)		
P0255	Injection Pump Fuel Metering Control "A" Intermittent (Cam/Rotor/Injector)		
P0256	Injection Pump Fuel Metering Control "B" (Cam/Rotor/Injector)		
P0257	Injection Pump Fuel Metering Control "B" Range/Performance (Cam/Rotor/Injector)		
P0258	Injection Pump Fuel Metering Control "B" Low (Cam/Rotor/Injector)		
P0259	Injection Pump Fuel Metering Control "B" High (Cam/Rotor/Injector)		
P025A	Fuel Pump Module Control Circuit/Open		
P025B	Fuel Pump Module Control Circuit Range/Performance		
P025C	Fuel Pump Module Control Circuit Low		
P025D	Fuel Pump Module Control Circuit High		
P025E	ISO/SAE Reserved		
P025F	ISO/SAE Reserved		
P0260	Injection Pump Fuel Metering Control "B" Intermittent (Cam/Rotor/Injector)		
P0261	Cylinder 1 Injector Circuit Low		
P0262	Cylinder 1 Injector Circuit High		
P0263	Cylinder 1 Contribution/Balance		
P0264	Cylinder 2 Injector Circuit Low		
P0265	Cylinder 2 Injector Circuit High		
P0266	Cylinder 2 Contribution/Balance		
P0267	Cylinder 3 Injector Circuit Low		
P0268	Cylinder 3 Injector Circuit High		
P0269	Cylinder 3 Contribution/Balance		
P026A	ISO/SAE Reserved		
P026B	ISO/SAE Reserved		
P026C	ISO/SAE Reserved		
P026D	ISO/SAE Reserved		
P026E	ISO/SAE Reserved		
P026F	ISO/SAE Reserved		
P0270	Cylinder 4 Injector Circuit Low		
P0271	Cylinder 4 Injector Circuit High		
P0272	Cylinder 4 Contribution/Balance		
P0273	Cylinder 5 Injector Circuit Low		
P0274	Cylinder 5 Injector Circuit High		
P0275	Cylinder 5 Contribution/Balance		
P0276	Cylinder 6 Injector Circuit Low		
P0277	Cylinder 6 Injector Circuit High		

DTC Number	DTC Naming	Location	Foot Note
P0278	Cylinder 6 Contribution/Balance		
P0279	Cylinder 7 Injector Circuit Low		
P027A	ISO/SAE Reserved		
P027B	ISO/SAE Reserved		
P027C	ISO/SAE Reserved		
P027D	ISO/SAE Reserved		
P027E	ISO/SAE Reserved		
P027F	ISO/SAE Reserved		
P0280	Cylinder 7 Injector Circuit High		
P0281	Cylinder 7 Contribution/Balance		
P0282	Cylinder 8 Injector Circuit Low		
P0283	Cylinder 8 Injector Circuit High		
P0284	Cylinder 8 Contribution/Balance		
P0285	Cylinder 9 Injector Circuit Low		
P0286	Cylinder 9 Injector Circuit High		
P0287	Cylinder 9 Contribution/Balance		
P0288	Cylinder 10 Injector Circuit Low		
P0289	Cylinder 10 Injector Circuit High		
P028A	ISO/SAE Reserved		
P028B	ISO/SAE Reserved		
P028C	ISO/SAE Reserved		
P028D	ISO/SAE Reserved		
P028E	ISO/SAE Reserved		
P028F	ISO/SAE Reserved		
P0290	Cylinder 10 Contribution/Balance		
P0291	Cylinder 11 Injector Circuit Low		
P0292	Cylinder 11 Injector Circuit High		
P0293	Cylinder 11 Contribution/Balance		
P0294	Cylinder 12 Injector Circuit Low		
P0295	Cylinder 12 Injector Circuit High		
P0296	Cylinder 12 Contribution/Balance		
P0297	Vehicle Overspeed Condition		
P0298	Engine Oil Over Temperature		
P0299	Turbocharger/Supercharger "A" Underboost Condition		
P029A	Cylinder 1 - Fuel Trim at Max Limit		
P029B	Cylinder 1 - Fuel Trim at Min Limit		
P029C	Cylinder 1 - Injector Restricted		
P029D	Cylinder 1 - Injector Leaking		
P029E	Cylinder 2 - Fuel Trim at Max Limit		
P029F	Cylinder 2 - Fuel Trim at Min Limit		
P02A0	Cylinder 2 - Injector Restricted		
P02A1	Cylinder 2 - Injector Leaking		
P02A2	Cylinder 3 - Fuel Trim at Max Limit		
P02A3	Cylinder 3 - Fuel Trim at Min Limit		
P02A4	Cylinder 3 - Injector Restricted		
P02A5	Cylinder 3 - Injector Leaking		
P02A6	Cylinder 4 - Fuel Trim at Max Limit		
P02A7	Cylinder 4 - Fuel Trim at Min Limit		
P02A8	Cylinder 4 - Injector Restricted		
P02A9	Cylinder 4 - Injector Leaking		
P02AA	Cylinder 5 - Fuel Trim at Max Limit		
P02AB	Cylinder 5 - Fuel Trim at Min Limit		

DTC Number	DTC Naming	Location	Foot Note
P02AC	Cylinder 5 - Injector Restricted		
P02AD	Cylinder 5 - Injector Leaking		
P02AE	Cylinder 6 - Fuel Trim at Max Limit		
P02AF	Cylinder 6 - Fuel Trim at Min Limit		
P02B0	Cylinder 6 - Injector Restricted		
P02B1	Cylinder 6 - Injector Leaking		
P02B2	Cylinder 7 - Fuel Trim at Max Limit		
P02B3	Cylinder 7 - Fuel Trim at Min Limit		
P02B4	Cylinder 7 - Injector Restricted		
P02B5	Cylinder 7 - Injector Leaking		
P02B6	Cylinder 8 - Fuel Trim at Max Limit		
P02B7	Cylinder 8 - Fuel Trim at Min Limit		
P02B8	Cylinder 8 - Injector Restricted		
P02B9	Cylinder 8 - Injector Leaking		
P02BA	Cylinder 9 - Fuel Trim at Max Limit		
P02BB	Cylinder 9 - Fuel Trim at Min Limit		
P02BC	Cylinder 9 - Injector Restricted		
P02BD	Cylinder 9 - Injector Leaking		
P02BE	Cylinder 10 - Fuel Trim at Max Limit		
P02BF	Cylinder 10 - Fuel Trim at Min Limit		
P02C0	Cylinder 10 - Injector Restricted		
P02C1	Cylinder 10 - Injector Leaking		
P02C2	Cylinder 11 - Fuel Trim at Max Limit		
P02C3	Cylinder 11 - Fuel Trim at Min Limit		
P02C4	Cylinder 11 - Injector Restricted		
P02C5	Cylinder 11 - Injector Leaking		
P02C6	Cylinder 12 - Fuel Trim at Max Limit		
P02C7	Cylinder 12 - Fuel Trim at Min Limit		
P02C8	Cylinder 12 - Injector Restricted		
P02C9	Cylinder 12 - Injector Leaking		
P02CA	Turbocharger/Supercharger "B" Overboost Condition		
P02CB	Turbocharger/Supercharger "B" Underboost Condition		
P02CC	Cylinder 1 Fuel Injector Offset Learning At Min Limit		
P02CD	Cylinder 1 Fuel Injector Offset Learning At Max Limit		
P02CE	Cylinder 2 Fuel Injector Offset Learning At Min Limit		
P02CF	Cylinder 2 Fuel Injector Offset Learning At Max Limit		
P02D0	Cylinder 3 Fuel Injector Offset Learning At Min Limit		
P02D1	Cylinder 3 Fuel Injector Offset Learning At Max Limit		
P02D2	Cylinder 4 Fuel Injector Offset Learning At Min Limit		
P02D3	Cylinder 4 Fuel Injector Offset Learning At Max Limit		
P02D4	Cylinder 5 Fuel Injector Offset Learning At Min Limit		
P02D5	Cylinder 5 Fuel Injector Offset Learning At Max Limit		
P02D6	Cylinder 6 Fuel Injector Offset Learning At Min Limit		
P02D7	Cylinder 6 Fuel Injector Offset Learning At Max Limit		
P02D8	Cylinder 7 Fuel Injector Offset Learning At Min Limit		
P02D9	Cylinder 7 Fuel Injector Offset Learning At Max Limit		
P02DA	Cylinder 8 Fuel Injector Offset Learning At Min Limit		
P02DB	Cylinder 8 Fuel Injector Offset Learning At Max Limit		
P02DC	Cylinder 9 Fuel Injector Offset Learning At Min Limit		
P02DD	Cylinder 9 Fuel Injector Offset Learning At Max Limit		
P02DE	Cylinder 10 Fuel Injector Offset Learning At Min Limit		
P02DF	Cylinder 10 Fuel Injector Offset Learning At Max Limit		

DTC Number	DTC Naming	Location	Foot Note
P02E0	Diesel Intake Air Flow Control Circuit/Open		
P02E1	Diesel Intake Air Flow Control Performance		
P02E2	Diesel Intake Air Flow Control Circuit Low		
P02E3	Diesel Intake Air Flow Control Circuit High		
P02E4	Diesel Intake Air Flow Control Stuck Open		
P02E5	Diesel Intake Air Flow Control Stuck Closed		
P02E6	Diesel Intake Air Flow Position Sensor Circuit		
P02E7	Diesel Intake Air Flow Position Sensor Circuit Range/Performance		
P02E8	Diesel Intake Air Flow Position Sensor Circuit Low		
P02E9	Diesel Intake Air Flow Position Sensor Circuit High		
P02EA	Diesel Intake Air Flow Position Sensor Circuit Intermittent/Erratic		
P02EB	Diesel Intake Air Flow Control Motor Current Range/Performance		
P02EC	Diesel Intake Air Flow Control System - High Air Flow Detected		
P02ED	Diesel Intake Air Flow Control System - Low Air Flow Detected		
P02EE	Cylinder 1 Injector Circuit Range/Performance		
P02EF	Cylinder 2 Injector Circuit Range/Performance		
P02F0	Cylinder 3 Injector Circuit Range/Performance		
P02F1	Cylinder 4 Injector Circuit Range/Performance		
P02F2	Cylinder 5 Injector Circuit Range/Performance		
P02F3	Cylinder 6 Injector Circuit Range/Performance		
P02F4	Cylinder 7 Injector Circuit Range/Performance		
P02F5	Cylinder 8 Injector Circuit Range/Performance		
P02F6	Cylinder 9 Injector Circuit Range/Performance		
P02F7	Cylinder 10 Injector Circuit Range/Performance		
P02F8	Cylinder 11 Injector Circuit Range/Performance		
P02F9	Cylinder 12 Injector Circuit Range/Performance		
P02FA	Diesel Intake Air Flow Position Sensor Minimum/Maximum Stop Performance		
P02FB	ISO/SAE Reserved		
P02FC	ISO/SAE Reserved		
P02FD	ISO/SAE Reserved		
P02FE	ISO/SAE Reserved		
P02FF	ISO/SAE Reserved		

TABLE D4 - P03XX IGNITION SYSTEM OR MISFIRE

DTC Number	DTC Naming	Location	Foot Note
P0300	Random/Multiple Cylinder Misfire Detected		
P0301	Cylinder 1 Misfire Detected		
P0302	Cylinder 2 Misfire Detected		
P0303	Cylinder 3 Misfire Detected		
P0304	Cylinder 4 Misfire Detected		
P0305	Cylinder 5 Misfire Detected		
P0306	Cylinder 6 Misfire Detected		
P0307	Cylinder 7 Misfire Detected		
P0308	Cylinder 8 Misfire Detected		
P0309	Cylinder 9 Misfire Detected		
P030A	ISO/SAE Reserved		
P030B	ISO/SAE Reserved		
P030C	ISO/SAE Reserved		
P030D	ISO/SAE Reserved		
P030E	ISO/SAE Reserved		

DTC Number	DTC Naming	Location	Foot Note
P030F	ISO/SAE Reserved		
P0310	Cylinder 10 Misfire Detected		
P0311	Cylinder 11 Misfire Detected		
P0312	Cylinder 12 Misfire Detected		
P0313	Misfire Detected With Low Fuel		
P0314	Single Cylinder Misfire (Cylinder not Specified)		
P0315	Crankshaft Position System Variation Not Learned		
P0316	Engine Misfire Detected on Startup (First 1000 Revolutions)		
P0317	Rough Road Hardware Not Present		
P0318	Rough Road Sensor "A" Signal Circuit		
P0319	Rough Road Sensor "B" Signal Circuit		
P031A	ISO/SAE Reserved		
P031B	ISO/SAE Reserved		
P031C	ISO/SAE Reserved		
P031D	ISO/SAE Reserved		
P031E	ISO/SAE Reserved		
P031F	ISO/SAE Reserved		
P0320	Ignition/Distributor Engine Speed Input Circuit		
P0321	Ignition/Distributor Engine Speed Input Circuit Range/Performance		
P0322	Ignition/Distributor Engine Speed Input Circuit No Signal		
P0323	Ignition/Distributor Engine Speed Input Circuit Intermittent		
P0324	Knock Control System Error		
P0325	Knock Sensor 1 Circuit	Bank 1 or Single Sensor	
P0326	Knock Sensor 1 Circuit Range/Performance	Bank 1 or Single Sensor	
P0327	Knock Sensor 1 Circuit Low	Bank 1 or Single Sensor	
P0328	Knock Sensor 1 Circuit High	Bank 1 or Single Sensor	
P0329	Knock Sensor 1 Circuit Intermittent	Bank 1 or Single Sensor	
P032A	Knock Sensor 3 Circuit	Bank 1	
P032B	Knock Sensor 3 Circuit Range/Performance	Bank 1	
P032C	Knock Sensor 3 Circuit Low	Bank 1	
P032D	Knock Sensor 3 Circuit High	Bank 1	
P032E	Knock Sensor 3 Circuit Intermittent	Bank 1	
P032F	ISO/SAE Reserved		
P0330	Knock Sensor 2 Circuit	Bank 2	
P0331	Knock Sensor 2 Circuit Range/Performance	Bank 2	
P0332	Knock Sensor 2 Circuit Low	Bank 2	
P0333	Knock Sensor 2 Circuit High	Bank 2	
P0334	Knock Sensor 2 Circuit Intermittent	Bank 2	
P0335	Crankshaft Position Sensor "A" Circuit		
P0336	Crankshaft Position Sensor "A" Circuit Range/Performance		
P0337	Crankshaft Position Sensor "A" Circuit Low		
P0338	Crankshaft Position Sensor "A" Circuit High		
P0339	Crankshaft Position Sensor "A" Circuit Intermittent		
P033A	Knock Sensor 4 Circuit	Bank 2	
P033B	Knock Sensor 4 Circuit Range/Performance	Bank 2	
P033C	Knock Sensor 4 Circuit Low	Bank 2	
P033D	Knock Sensor 4 Circuit High	Bank 2	
P033E	Knock Sensor 4 Circuit Intermittent	Bank 2	

DTC Number	DTC Naming	Location	Foot Note
P033F	ISO/SAE Reserved		
P0340	Camshaft Position Sensor "A" Circuit	Bank 1 or Single Sensor	
P0341	Camshaft Position Sensor "A" Circuit Range/Performance	Bank 1 or Single Sensor	
P0342	Camshaft Position Sensor "A" Circuit Low	Bank 1 or Single Sensor	
P0343	Camshaft Position Sensor "A" Circuit High	Bank 1 or Single Sensor	
P0344	Camshaft Position Sensor "A" Circuit Intermittent	Bank 1 or Single Sensor	
P0345	Camshaft Position Sensor "A" Circuit	Bank 2	
P0346	Camshaft Position Sensor "A" Circuit Range/Performance	Bank 2	
P0347	Camshaft Position Sensor "A" Circuit Low	Bank 2	
P0348	Camshaft Position Sensor "A" Circuit High	Bank 2	
P0349	Camshaft Position Sensor "A" Circuit Intermittent	Bank 2	
P034A	ISO/SAE Reserved		
P034B	ISO/SAE Reserved		
P034C	ISO/SAE Reserved		
P034D	ISO/SAE Reserved		
P034E	ISO/SAE Reserved		
P034F	ISO/SAE Reserved		
P0350	Ignition Coil Primary/Secondary Circuit		
P0351	Ignition Coil "A" Primary/Secondary Circuit		
P0352	Ignition Coil "B" Primary/Secondary Circuit		
P0353	Ignition Coil "C" Primary/Secondary Circuit		
P0354	Ignition Coil "D" Primary/Secondary Circuit		
P0355	Ignition Coil "E" Primary/Secondary Circuit		
P0356	Ignition Coil "F" Primary/Secondary Circuit		
P0357	Ignition Coil "G" Primary/Secondary Circuit		
P0358	Ignition Coil "H" Primary/Secondary Circuit		
P0359	Ignition Coil "I" Primary/Secondary Circuit		
P035A	ISO/SAE Reserved		
P035B	ISO/SAE Reserved		
P035C	ISO/SAE Reserved		
P035D	ISO/SAE Reserved		
P035E	ISO/SAE Reserved		
P035F	ISO/SAE Reserved		
P0360	Ignition Coil "J" Primary/Secondary Circuit		
P0361	Ignition Coil "K" Primary/Secondary Circuit		
P0362	Ignition Coil "L" Primary/Secondary Circuit		
P0363	Misfire Detected - Fueling Disabled		
P0364	ISO/SAE Reserved		
P0365	Camshaft Position Sensor "B" Circuit	Bank 1	
P0366	Camshaft Position Sensor "B" Circuit Range/Performance	Bank 1	
P0367	Camshaft Position Sensor "B" Circuit Low	Bank 1	
P0368	Camshaft Position Sensor "B" Circuit High	Bank 1	
P0369	Camshaft Position Sensor "B" Circuit Intermittent	Bank 1	
P036A	ISO/SAE Reserved		
P036B	ISO/SAE Reserved		
P036C	ISO/SAE Reserved		
P036D	ISO/SAE Reserved		
P036E	ISO/SAE Reserved		

DTC Number	DTC Naming	Location	Foot Note
P036F	ISO/SAE Reserved		
P0370	Timing Reference High Resolution Signal "A"		
P0371	Timing Reference High Resolution Signal "A" Too Many Pulses		
P0372	Timing Reference High Resolution Signal "A" Too Few Pulses		
P0373	Timing Reference High Resolution Signal "A" Intermittent/Erratic Pulses		
P0374	Timing Reference High Resolution Signal "A" No Pulses		
P0375	Timing Reference High Resolution Signal "B"		
P0376	Timing Reference High Resolution Signal "B" Too Many Pulses		
P0377	Timing Reference High Resolution Signal "B" Too Few Pulses		
P0378	Timing Reference High Resolution Signal "B" Intermittent/Erratic Pulses		
P0379	Timing Reference High Resolution Signal "B" No Pulses		
P037A	ISO/SAE Reserved		
P037B	ISO/SAE Reserved		
P037C	ISO/SAE Reserved		
P037D	Glow Plug Sense Circuit		
P037E	Glow Plug Sense Circuit Low		
P037F	Glow Plug Sense Circuit High		
P0380	Glow Plug/Heater Circuit "A"		
P0381	Glow Plug/Heater Indicator Circuit		
P0382	Glow Plug/Heater Circuit "B"		
P0383	Glow Plug Control Module Control Circuit Low		
P0384	Glow Plug Control Module Control Circuit High		
P0385	Crankshaft Position Sensor "B" Circuit		
P0386	Crankshaft Position Sensor "B" Circuit Range/Performance		
P0387	Crankshaft Position Sensor "B" Circuit Low		
P0388	Crankshaft Position Sensor "B" Circuit High		
P0389	Crankshaft Position Sensor "B" Circuit Intermittent		
P038A	ISO/SAE Reserved		
P038B	ISO/SAE Reserved		
P038C	ISO/SAE Reserved		
P038D	ISO/SAE Reserved		
P038E	ISO/SAE Reserved		
P038F	ISO/SAE Reserved		
P0390	Camshaft Position Sensor "B" Circuit	Bank 2	
P0391	Camshaft Position Sensor "B" Circuit Range/Performance	Bank 2	
P0392	Camshaft Position Sensor "B" Circuit Low	Bank 2	
P0393	Camshaft Position Sensor "B" Circuit High	Bank 2	
P0394	Camshaft Position Sensor "B" Circuit Intermittent	Bank 2	
P0395 – P03FF	ISO/SAE Reserved		

TABLE D5 - P04XX AUXILIARY EMISSION CONTROLS

DTC Number	DTC Naming	Location	Foot Note
P0400	Exhaust Gas Recirculation "A" Flow		
P0401	Exhaust Gas Recirculation "A" Flow Insufficient Detected		
P0402	Exhaust Gas Recirculation "A" Flow Excessive Detected		
P0403	Exhaust Gas Recirculation "A" Control Circuit		
P0404	Exhaust Gas Recirculation "A" Control Circuit Range/Performance		
P0405	Exhaust Gas Recirculation Sensor "A" Circuit Low		
P0406	Exhaust Gas Recirculation Sensor "A" Circuit High		
P0407	Exhaust Gas Recirculation Sensor "B" Circuit Low		
P0408	Exhaust Gas Recirculation Sensor "B" Circuit High		
P0409	Exhaust Gas Recirculation Sensor "A" Circuit		
P040A	Exhaust Gas Recirculation Temperature Sensor "A" Circuit		
P040B	Exhaust Gas Recirculation Temperature Sensor "A" Circuit Range/Performance		
P040C	Exhaust Gas Recirculation Temperature Sensor "A" Circuit Low		
P040D	Exhaust Gas Recirculation Temperature Sensor "A" Circuit High		
P040E	Exhaust Gas Recirculation Temperature Sensor "A" Circuit Intermittent/Erratic		
P040F	Exhaust Gas Recirculation Temperature Sensor "A"/"B" Correlation		
P0410	Secondary Air Injection System		
P0411	Secondary Air Injection System Incorrect Flow Detected		
P0412	Secondary Air Injection System Switching Valve "A" Circuit		
P0413	Secondary Air Injection System Switching Valve "A" Circuit Open		
P0414	Secondary Air Injection System Switching Valve "A" Circuit Shorted		
P0415	Secondary Air Injection System Switching Valve "B" Circuit		
P0416	Secondary Air Injection System Switching Valve "B" Circuit Open		
P0417	Secondary Air Injection System Switching Valve "B" Circuit Shorted		
P0418	Secondary Air Injection System Control "A" Circuit		
P0419	Secondary Air Injection System Control "B" Circuit		
P041A	Exhaust Gas Recirculation Temperature Sensor "B" Circuit		
P041B	Exhaust Gas Recirculation Temperature Sensor "B" Circuit Range/Performance		
P041C	Exhaust Gas Recirculation Temperature Sensor "B" Circuit Low		
P041D	Exhaust Gas Recirculation Temperature Sensor "B" Circuit High		
P041E	Exhaust Gas Recirculation Temperature Sensor "B" Circuit Intermittent/Erratic		
P041F	Secondary Air Injection System Switching Valve "A" Circuit Low		
P0420	Catalyst System Efficiency Below Threshold	Bank 1	
P0421	Warm Up Catalyst Efficiency Below Threshold	Bank 1	
P0422	Main Catalyst Efficiency Below Threshold	Bank 1	
P0423	Heated Catalyst Efficiency Below Threshold	Bank 1	
P0424	Heated Catalyst Temperature Below Threshold	Bank 1	
P0425	Catalyst Temperature Sensor Circuit	Bank 1 Sensor 1	
P0426	Catalyst Temperature Sensor Circuit Range/Performance	Bank 1 Sensor 1	
P0427	Catalyst Temperature Sensor Circuit Low	Bank 1 Sensor 1	
P0428	Catalyst Temperature Sensor Circuit High	Bank 1 Sensor 1	
P0429	Catalyst Heater Control Circuit	Bank 1	
P042A	Catalyst Temperature Sensor Circuit	Bank 1 Sensor 2	
P042B	Catalyst Temperature Sensor Circuit Range/Performance	Bank 1 Sensor 2	
P042C	Catalyst Temperature Sensor Circuit Low	Bank 1 Sensor 2	
P042D	Catalyst Temperature Sensor Circuit High	Bank 1 Sensor 2	
P042E	Exhaust Gas Recirculation "A" Control Stuck Open		

DTC Number	DTC Naming	Location	Foot Note
P042F	Exhaust Gas Recirculation "A" Control Stuck Closed		
P0430	Catalyst System Efficiency Below Threshold	Bank 2	
P0431	Warm Up Catalyst Efficiency Below Threshold	Bank 2	
P0432	Main Catalyst Efficiency Below Threshold	Bank 2	
P0433	Heated Catalyst Efficiency Below Threshold	Bank 2	
P0434	Heated Catalyst Temperature Below Threshold	Bank 2	
P0435	Catalyst Temperature Sensor Circuit	Bank 2 Sensor 1	
P0436	Catalyst Temperature Sensor Circuit Range/Performance	Bank 2 Sensor 1	
P0437	Catalyst Temperature Sensor Circuit Low	Bank 2 Sensor 1	
P0438	Catalyst Temperature Sensor Circuit High	Bank 2 Sensor 1	
P0439	Catalyst Heater Control Circuit	Bank 2	
P043A	Catalyst Temperature Sensor Circuit	Bank 2 Sensor 2	
P043B	Catalyst Temperature Sensor Circuit Range/Performance	Bank 2 Sensor 2	
P043C	Catalyst Temperature Sensor Circuit Low	Bank 2 Sensor 2	
P043D	Catalyst Temperature Sensor Circuit High	Bank 2 Sensor 2	
P043E	Evaporative Emission System Leak Detection Reference Orifice Low Flow		
P043F	Evaporative Emission System Leak Detection Reference Orifice High Flow		
P0440	Evaporative Emission System		
P0441	Evaporative Emission System Incorrect Purge Flow		
P0442	Evaporative Emission System Leak Detected (small leak)		
P0443	Evaporative Emission System Purge Control Valve Circuit		
P0444	Evaporative Emission System Purge Control Valve Circuit Open		
P0445	Evaporative Emission System Purge Control Valve Circuit Shorted		
P0446	Evaporative Emission System Vent Control Circuit		
P0447	Evaporative Emission System Vent Control Circuit Open		
P0448	Evaporative Emission System Vent Control Circuit Shorted		
P0449	Evaporative Emission System Vent Valve/Solenoid Circuit		
P044A	Exhaust Gas Recirculation Sensor "C" Circuit		
P044B	Exhaust Gas Recirculation Sensor "C" Circuit Range/Performance		
P044C	Exhaust Gas Recirculation Sensor "C" Circuit Low		
P044D	Exhaust Gas Recirculation Sensor "C" Circuit High		
P044E	Exhaust Gas Recirculation Sensor "C" Circuit Intermittent/Erratic		
P044F	Secondary Air Injection System Switching Valve "A" Circuit High		
P0450	Evaporative Emission System Pressure Sensor/Switch		
P0451	Evaporative Emission System Pressure Sensor/Switch Range/Performance		
P0452	Evaporative Emission System Pressure Sensor/Switch Low		
P0453	Evaporative Emission System Pressure Sensor/Switch High		
P0454	Evaporative Emission System Pressure Sensor/Switch Intermittent		
P0455	Evaporative Emission System Leak Detected (large leak)		
P0456	Evaporative Emission System Leak Detected (very small leak)		
P0457	Evaporative Emission System Leak Detected (fuel cap loose/off)		
P0458	Evaporative Emission System Purge Control Valve Circuit Low		
P0459	Evaporative Emission System Purge Control Valve Circuit High		
P045A	Exhaust Gas Recirculation "B" Control Circuit		
P045B	Exhaust Gas Recirculation "B" Control Circuit Range/Performance		
P045C	Exhaust Gas Recirculation "B" Control Circuit Low		
P045D	Exhaust Gas Recirculation "B" Control Circuit High		
P045E	Exhaust Gas Recirculation "B" Control Stuck Open		
P045F	Exhaust Gas Recirculation "B" Control Stuck Closed		
P0460	Fuel Level Sensor "A" Circuit		

DTC Number	DTC Naming	Location	Foot Note
P0461	Fuel Level Sensor "A" Circuit Range/Performance		
P0462	Fuel Level Sensor "A" Circuit Low		
P0463	Fuel Level Sensor "A" Circuit High		
P0464	Fuel Level Sensor "A" Circuit Intermittent		
P0465	EVAP Purge Flow Sensor Circuit		
P0466	EVAP Purge Flow Sensor Circuit Range/Performance		
P0467	EVAP Purge Flow Sensor Circuit Low		
P0468	EVAP Purge Flow Sensor Circuit High		
P0469	EVAP Purge Flow Sensor Circuit Intermittent		
P046A	Catalyst Temperature Sensor 1/2 Correlation	Bank 1	
P046B	Catalyst Temperature Sensor 1/2 Correlation	Bank 2	
P046C	Exhaust Gas Recirculation Sensor "A" Circuit Range/Performance		
P046D	Exhaust Gas Recirculation Sensor "A" Circuit Intermittent/Erratic		
P046E	Exhaust Gas Recirculation Sensor "B" Circuit Range/Performance		
P046F	Exhaust Gas Recirculation Sensor "B" Circuit Intermittent/Erratic		
P0470	Exhaust Pressure Sensor "A" Circuit		
P0471	Exhaust Pressure Sensor "A" Circuit Range/Performance		
P0472	Exhaust Pressure Sensor "A" Circuit Low		
P0473	Exhaust Pressure Sensor "A" Circuit High		
P0474	Exhaust Pressure Sensor "A" Circuit Intermittent/Erratic		
P0475	Exhaust Pressure Control Valve "A"		
P0476	Exhaust Pressure Control Valve "A" Range/Performance		
P0477	Exhaust Pressure Control Valve "A" Low		
P0478	Exhaust Pressure Control Valve "A" High		
P0479	Exhaust Pressure Control Valve "A" Intermittent		
P047A	Exhaust Pressure Sensor "B" Circuit		
P047B	Exhaust Pressure Sensor "B" Circuit Range/Performance		
P047C	Exhaust Pressure Sensor "B" Circuit Low		
P047D	Exhaust Pressure Sensor "B" Circuit High		
P047E	Exhaust Pressure Sensor "B" Circuit Intermittent/Erratic		
P047F	Exhaust Pressure Control Valve "A" Stuck Open		
P0480	Fan 1 Control Circuit		
P0481	Fan 2 Control Circuit		
P0482	Fan 3 Control Circuit		
P0483	Fan Rationality Check		
P0484	Fan Circuit Over Current		
P0485	Fan Power/Ground Circuit		
P0486	Exhaust Gas Recirculation Sensor "B" Circuit		
P0487	Exhaust Gas Recirculation Throttle Control Circuit "A" /Open		
P0488	Exhaust Gas Recirculation Throttle Control Circuit "A" Range/Performance		
P0489	Exhaust Gas Recirculation "A" Control Circuit Low		
P048A	Exhaust Pressure Control Valve "A" Stuck Closed		
P048B	Exhaust Pressure Control Valve Position Sensor/Switch Circuit		
P048C	Exhaust Pressure Control Valve Position Sensor/Switch Circuit Range/Performance		
P048D	Exhaust Pressure Control Valve Position Sensor/Switch Circuit Low		
P048E	Exhaust Pressure Control Valve Position Sensor/Switch Circuit High		
P048F	Exhaust Pressure Control Valve Position Sensor/Switch Circuit Intermittent/Erratic		
P0490	Exhaust Gas Recirculation "A" Control Circuit High		
P0491	Secondary Air Injection System Insufficient Flow	Bank 1	

DTC Number	DTC Naming	Location	Foot Note
P0492	Secondary Air Injection System Insufficient Flow	Bank 2	
P0493	Fan Overspeed		
P0494	Fan Speed Low		
P0495	Fan Speed High		
P0496	Evaporative Emission System High Purge Flow		
P0497	Evaporative Emission System Low Purge Flow		
P0498	Evaporative Emission System Vent Valve Control Circuit Low		
P0499	Evaporative Emission System Vent Valve Control Circuit High		
P049A	Exhaust Gas Recirculation "B" Flow		
P049B	Exhaust Gas Recirculation "B" Flow Insufficient Detected		
P049C	Exhaust Gas Recirculation "B" Flow Excessive Detected		
P049D	Exhaust Gas Recirculation "A" Control Position Exceeded Learning Limit		
P049E	Exhaust Gas Recirculation "B" Control Position Exceeded Learning Limit		
P049F	Exhaust Pressure Control Valve "B"		
P04A0	Exhaust Pressure Control Valve "B" Range/Performance		
P04A1	Exhaust Pressure Control Valve "B" Low		
P04A2	Exhaust Pressure Control Valve "B" High		
P04A3	Exhaust Pressure Control Valve " B" Intermittent		
P04A4	Exhaust Pressure Control Valve "B" Stuck Open		
P04A5	Exhaust Pressure Control Valve "B" Stuck Closed		
P04A6	Exhaust Pressure Control Valve "B" Position Sensor/Switch Circuit		
P04A7	Exhaust Pressure Control Valve "B" Position Sensor/Switch Circuit Range/Performance		
P04A8	Exhaust Pressure Control Valve "B" Position Sensor/Switch Circuit Low		
P04A9	Exhaust Pressure Control Valve "B" Position Sensor/Switch Circuit High		
P04AA	Exhaust Pressure Control Valve "B" Position Sensor/Switch Circuit Intermittent/Erratic		
P04AB – P04FF	ISO/SAE Reserved		

TABLE D6 - P05XX VEHICLE SPEED, IDLE CONTROL, AND AUXILIARY INPUTS

DTC Number	DTC Naming	Location	Foot Note
P0500	Vehicle Speed Sensor "A"		
P0501	Vehicle Speed Sensor "A" Range/Performance		
P0502	Vehicle Speed Sensor "A" Circuit Low		
P0503	Vehicle Speed Sensor "A" Intermittent/Erratic/High		
P0504	Brake Switch "A"/"B" Correlation		
P0505	Idle Air Control System		
P0506	Idle Air Control System RPM Lower Than Expected		
P0507	Idle Air Control System RPM Higher Than Expected		
P0508	Idle Air Control System Circuit Low		
P0509	Idle Air Control System Circuit High		
P050A	Cold Start Idle Air Control System Performance		
P050B	Cold Start Ignition Timing Performance		
P050C	Cold Start Engine Coolant Temperature Performance		
P050D	Cold Start Rough Idle		
P050E	Cold Start Engine Exhaust Temperature Too Low		
P050F	Brake Assist Vacuum Too Low		
P0510	Closed Throttle Position Switch		

DTC Number	DTC Naming	Location	Foot Note
P0511	Idle Air Control Circuit		
P0512	Starter Request Circuit		
P0513	Incorrect Immobilizer Key		
P0514	Battery Temperature Sensor Circuit Range/Performance		
P0515	Battery Temperature Sensor Circuit		
P0516	Battery Temperature Sensor Circuit Low		
P0517	Battery Temperature Sensor Circuit High		
P0518	Idle Air Control Circuit Intermittent		
P0519	Idle Air Control System Performance		
P051A	Crankcase Pressure Sensor Circuit		
P051B	Crankcase Pressure Sensor Circuit Range/Performance		
P051C	Crankcase Pressure Sensor Circuit Low		
P051D	Crankcase Pressure Sensor Circuit High		
P051E	Crankcase Pressure Sensor Circuit Intermittent/Erratic		
P051F	Positive Crankcase Ventilation Filter Restriction		
P0520	Engine Oil Pressure Sensor/Switch Circuit		
P0521	Engine Oil Pressure Sensor/Switch Range/Performance		
P0522	Engine Oil Pressure Sensor/Switch Low		
P0523	Engine Oil Pressure Sensor/Switch High		
P0524	Engine Oil Pressure Too Low		
P0525	Cruise Control Servo Control Circuit Range/Performance		
P0526	Fan Speed Sensor Circuit		
P0527	Fan Speed Sensor Circuit Range/Performance		
P0528	Fan Speed Sensor Circuit No Signal		
P0529	Fan Speed Sensor Circuit Intermittent		
P052A	Cold Start "A" Camshaft Position Timing Over-Advanced	Bank 1	a
P052B	Cold Start "A" Camshaft Position Timing Over-Retarded	Bank 1	a
P052C	Cold Start "A" Camshaft Position Timing Over-Advanced	Bank 2	a
P052D	Cold Start "A" Camshaft Position Timing Over-Retarded	Bank 2	a
P052E	Positive Crankcase Ventilation Regulator Valve Performance		
P052F	ISO/SAE Reserved		
P0530	A/C Refrigerant Pressure Sensor "A" Circuit		
P0531	A/C Refrigerant Pressure Sensor "A" Circuit Range/Performance		
P0532	A/C Refrigerant Pressure Sensor "A" Circuit Low		
P0533	A/C Refrigerant Pressure Sensor "A" Circuit High		
P0534	A/C Refrigerant Charge Loss		
P0535	A/C Evaporator Temperature Sensor Circuit		
P0536	A/C Evaporator Temperature Sensor Circuit Range/Performance		
P0537	A/C Evaporator Temperature Sensor Circuit Low		
P0538	A/C Evaporator Temperature Sensor Circuit High		
P0539	A/C Evaporator Temperature Sensor Circuit Intermittent		
P053A	Positive Crankcase Ventilation Heater Control Circuit /Open		
P053B	Positive Crankcase Ventilation Heater Control Circuit Low		
P053C	Positive Crankcase Ventilation Heater Control Circuit High		
P053D	ISO/SAE Reserved		
P053E	ISO/SAE Reserved		
P053F	ISO/SAE Reserved		
P0540	Intake Air Heater "A" Circuit		1
P0541	Intake Air Heater "A" Circuit Low		1
P0542	Intake Air Heater "A" Circuit High		1
P0543	Intake Air Heater "A" Circuit Open		1
P0544	Exhaust Gas Temperature Sensor Circuit	Bank 1 Sensor 1	

DTC Number	DTC Naming	Location	Foot Note
P0545	Exhaust Gas Temperature Sensor Circuit Low	Bank 1 Sensor 1	
P0546	Exhaust Gas Temperature Sensor Circuit High	Bank 1 Sensor 1	
P0547	Exhaust Gas Temperature Sensor Circuit	Bank 2 Sensor 1	
P0548	Exhaust Gas Temperature Sensor Circuit Low	Bank 2 Sensor 1	
P0549	Exhaust Gas Temperature Sensor Circuit High	Bank 2 Sensor 1	
P054A	Cold Start "B" Camshaft Position Timing Over-Advanced	Bank 1	b
P054B	Cold Start "B" Camshaft Position Timing Over-Retarded	Bank 1	b
P054C	Cold Start "B" Camshaft Position Timing Over-Advanced	Bank 2	b
P054D	Cold Start "B" Camshaft Position Timing Over-Retarded	Bank 2	b
P054E	ISO/SAE Reserved		
P054F	ISO/SAE Reserved		
P0550	Power Steering Pressure Sensor/Switch Circuit		
P0551	Power Steering Pressure Sensor/Switch Circuit Range/Performance		
P0552	Power Steering Pressure Sensor/Switch Circuit Low		
P0553	Power Steering Pressure Sensor/Switch Circuit High		
P0554	Power Steering Pressure Sensor/Switch Circuit Intermittent		
P0555	Brake Booster Pressure Sensor Circuit		
P0556	Brake Booster Pressure Sensor Circuit Range/Performance		
P0557	Brake Booster Pressure Sensor Circuit Low		
P0558	Brake Booster Pressure Sensor Circuit High		
P0559	Brake Booster Pressure Sensor Circuit Intermittent		
P055A	ISO/SAE Reserved		
P055B	ISO/SAE Reserved		
P055C	ISO/SAE Reserved		
P055D	ISO/SAE Reserved		
P055E	ISO/SAE Reserved		
P055F	ISO/SAE Reserved		
P0560	System Voltage		
P0561	System Voltage Unstable		
P0562	System Voltage Low		
P0563	System Voltage High		
P0564	Cruise Control Multi-Function Input "A" Circuit		
P0565	Cruise Control "On" Signal		
P0566	Cruise Control "Off" Signal		
P0567	Cruise Control "Resume" Signal		
P0568	Cruise Control "Set" Signal		
P0569	Cruise Control "Coast" Signal		
P056A	Cruise Control "Increase Distance" Signal		
P056B	Cruise Control "Decrease Distance" Signal		
P056C	ISO/SAE Reserved		
P056D	ISO/SAE Reserved		
P056E	ISO/SAE Reserved		
P056F	ISO/SAE Reserved		
P0570	Cruise Control "Accelerate" Signal		
P0571	Brake Switch "A" Circuit		
P0572	Brake Switch "A" Circuit Low		
P0573	Brake Switch "A" Circuit High		
P0574	Cruise Control System - Vehicle Speed Too High		
P0575	Cruise Control Input Circuit		
P0576	Cruise Control Input Circuit Low		
P0577	Cruise Control Input Circuit High		

DTC Number	DTC Naming	Location	Foot Note
P0578	Cruise Control Multi-Function Input "A" Circuit Stuck		2
P0579	Cruise Control Multi-Function Input "A" Circuit Range/Performance		2
P057A	ISO/SAE Reserved		
P057B	ISO/SAE Reserved		
P057C	ISO/SAE Reserved		
P057D	ISO/SAE Reserved		
P057E	ISO/SAE Reserved		
P057F	ISO/SAE Reserved		
P0580	Cruise Control Multi-Function Input "A" Circuit Low		2
P0581	Cruise Control Multi-Function Input "A" Circuit High		2
P0582	Cruise Control Vacuum Control Circuit/Open		
P0583	Cruise Control Vacuum Control Circuit Low		
P0584	Cruise Control Vacuum Control Circuit High		
P0585	Cruise Control Multi-Function Input "A"/"B" Correlation		
P0586	Cruise Control Vent Control Circuit/Open		
P0587	Cruise Control Vent Control Circuit Low		
P0588	Cruise Control Vent Control Circuit High		
P0589	Cruise Control Multi-Function Input "B" Circuit		
P058A	ISO/SAE Reserved		
P058B	ISO/SAE Reserved		
P058C	ISO/SAE Reserved		
P058D	ISO/SAE Reserved		
P058E	ISO/SAE Reserved		
P058F	ISO/SAE Reserved		
P0590	Cruise Control Multi-Function Input "B" Circuit Stuck		
P0591	Cruise Control Multi-Function Input "B" Circuit Range/Performance		
P0592	Cruise Control Multi-Function Input "B" Circuit Low		
P0593	Cruise Control Multi-Function Input "B" Circuit High		
P0594	Cruise Control Servo Control Circuit/Open		
P0595	Cruise Control Servo Control Circuit Low		
P0596	Cruise Control Servo Control Circuit High		
P0597	Thermostat Heater Control Circuit/Open		
P0598	Thermostat Heater Control Circuit Low		
P0599	Thermostat Heater Control Circuit High		
P059A – P05FF	ISO/SAE Reserved		

1) For DTCs P0540 - P0543 also see P2604 - P2609
2) For DTCs P0578 - P0581 also see P0564

a) The "A" camshaft shall be either the "intake," "left," or "front" camshaft. Left/Right and Front/Rear are determined as if viewed from the driver's seating position. Bank 1 contains cylinder number one, Bank 2 is the opposite bank.
b) The "B" camshaft shall be either the "exhaust," "right," or "rear" camshaft. Left/Right and Front/Rear are determined as if viewed from the driver's seating position. Bank 1 contains cylinder number one, Bank 2 is the opposite bank.

TABLE D7 - P06XX COMPUTER AND AUXILIARY OUTPUTS

DTC Number	DTC Naming	Location	Foot Note
P0600	Serial Communication Link		
P0601	Internal Control Module Memory Check Sum Error		
P0602	Control Module Programming Error		
P0603	Internal Control Module Keep Alive Memory (KAM) Error		
P0604	Internal Control Module Random Access Memory (RAM) Error		
P0605	Internal Control Module Read Only Memory (ROM) Error		
P0606	Control Module Processor		
P0607	Control Module Performance		
P0608	Control Module VSS Output "A"		
P0609	Control Module VSS Output "B"		
P060A	Internal Control Module Monitoring Processor Performance		
P060B	Internal Control Module A/D Processing Performance		
P060C	Internal Control Module Main Processor Performance		
P060D	Internal Control Module Accelerator Pedal Position Performance		
P060E	Internal Control Module Throttle Position Performance		
P060F	Internal Control Module Coolant Temperature Performance		
P0610	Control Module Vehicle Options Error		
P0611	Fuel Injector Control Module Performance		
P0612	Fuel Injector Control Module Relay Control		
P0613	TCM Processor		
P0614	ECM/TCM Incompatible		
P0615	Starter Relay Circuit		
P0616	Starter Relay Circuit Low		
P0617	Starter Relay Circuit High		
P0618	Alternative Fuel Control Module KAM Error		
P0619	Alternative Fuel Control Module RAM/ROM Error		
P061A	Internal Control Module Torque Performance		
P061B	Internal Control Module Torque Calculation Performance		
P061C	Internal Control Module Engine RPM Performance		
P061D	Internal Control Module Engine Air Mass Performance		
P061E	Internal Control Module Brake Signal Performance		
P061F	Internal Control Module Throttle Actuator Controller Performance		
P0620	Generator Control Circuit		
P0621	Generator Lamp/L Terminal Circuit		
P0622	Generator Field/F Terminal Circuit		
P0623	Generator Lamp Control Circuit		
P0624	Fuel Cap Lamp Control Circuit		
P0625	Generator Field/F Terminal Circuit Low		
P0626	Generator Field/F Terminal Circuit High		
P0627	Fuel Pump "A" Control Circuit/Open		
P0628	Fuel Pump "A" Control Circuit Low		
P0629	Fuel Pump "A" Control Circuit High		
P062A	Fuel Pump "A" Control Circuit Range/Performance		
P062B	Internal Control Module Fuel Injector Control Performance		
P062C	Internal Control Module Vehicle Speed Performance		
P062D	Fuel Injector Driver Circuit Performance	Bank 1	
P062E	Fuel Injector Driver Circuit Performance	Bank 2	
P062F	Internal Control Module EEPROM Error		
P0630	VIN Not Programmed or Incompatible - ECM/PCM		
P0631	VIN Not Programmed or Incompatible - TCM		

DTC Number	DTC Naming	Location	Foot Note
P0632	Odometer Not Programmed - ECM/PCM		
P0633	Immobilizer Key Not Programmed - ECM/PCM		
P0634	PCM/ECM/TCM Internal Temperature "A" Too High		
P0635	Power Steering Control Circuit		
P0636	Power Steering Control Circuit Low		
P0637	Power Steering Control Circuit High		
P0638	Throttle Actuator Control Range/Performance	Bank 1	
P0639	Throttle Actuator Control Range/Performance	Bank 2	
P063A	Generator Voltage Sense Circuit		
P063B	Generator Voltage Sense Circuit Range/Performance		
P063C	Generator Voltage Sense Circuit Low		
P063D	Generator Voltage Sense Circuit High		
P063E	Auto Configuration Throttle Input Not Present		
P063F	Auto Configuration Engine Coolant Temperature Input Not Present		
P0640	Intake Air Heater Control Circuit		
P0641	Sensor Reference Voltage "A" Circuit/Open		
P0642	Sensor Reference Voltage "A" Circuit Low		
P0643	Sensor Reference Voltage "A" Circuit High		
P0644	Driver Display Serial Communication Circuit		
P0645	A/C Clutch Relay Control Circuit		
P0646	A/C Clutch Relay Control Circuit Low		
P0647	A/C Clutch Relay Control Circuit High		
P0648	Immobilizer Lamp Control Circuit		
P0649	Speed Control Lamp Control Circuit		
P064A	Fuel Pump Control Module		
P064B	PTO Control Module		
P064C	Glow Plug Control Module		
P064D	Internal Control Module O2 Sensor Processor Performance	Bank 1	
P064E	Internal Control Module O2 Sensor Processor Performance	Bank 2	
P064F	Unauthorized Software/Calibration Detected		
P0650	Malfunction Indicator Lamp (MIL) Control Circuit		
P0651	Sensor Reference Voltage "B" Circuit/Open		
P0652	Sensor Reference Voltage "B" Circuit Low		
P0653	Sensor Reference Voltage "B" Circuit High		
P0654	Engine RPM Output Circuit		
P0655	Engine Hot Lamp Output Control Circuit		
P0656	Fuel Level Output Circuit		
P0657	Actuator Supply Voltage "A" Circuit/Open		
P0658	Actuator Supply Voltage "A" Circuit Low		
P0659	Actuator Supply Voltage "A" Circuit High		
P065A	Generator System Performance		
P065B	Generator Control Circuit Range/Performance		
P065C	Generator Mechanical Performance		
P065D	Reductant System Malfunction Lamp Control Circuit		
P065E	Intake Manifold Tuning Valve Performance	Bank 1	
P065F	Intake Manifold Tuning Valve Performance	Bank 2	
P0660	Intake Manifold Tuning Valve Control Circuit/Open	Bank 1	c
P0661	Intake Manifold Tuning Valve Control Circuit Low	Bank 1	c
P0662	Intake Manifold Tuning Valve Control Circuit High	Bank 1	c
P0663	Intake Manifold Tuning Valve Control Circuit/Open	Bank 2	c
P0664	Intake Manifold Tuning Valve Control Circuit Low	Bank 2	c
P0665	Intake Manifold Tuning Valve Control Circuit High	Bank 2	c

DTC Number	DTC Naming	Location	Foot Note
P0666	PCM/ECM/TCM Internal Temperature Sensor "A" Circuit		
P0667	PCM/ECM/TCM Internal Temperature Sensor "A" Range/Performance		
P0668	PCM/ECM/TCM Internal Temperature Sensor "A" Circuit Low		
P0669	PCM/ECM/TCM Internal Temperature Sensor "A" Circuit High		
P066A	Cylinder 1 Glow Plug Control Circuit Low		
P066B	Cylinder 1 Glow Plug Control Circuit High		
P066C	Cylinder 2 Glow Plug Control Circuit Low		
P066D	Cylinder 2 Glow Plug Control Circuit High		
P066E	Cylinder 3 Glow Plug Control Circuit Low		
P066F	Cylinder 3 Glow Plug Control Circuit High		
P0670	Glow Plug Control Module Control Circuit/Open		
P0671	Cylinder 1 Glow Plug Circuit/Open		
P0672	Cylinder 2 Glow Plug Circuit/Open		
P0673	Cylinder 3 Glow Plug Circuit/Open		
P0674	Cylinder 4 Glow Plug Circuit/Open		
P0675	Cylinder 5 Glow Plug Circuit/Open		
P0676	Cylinder 6 Glow Plug Circuit/Open		
P0677	Cylinder 7 Glow Plug Circuit/Open		
P0678	Cylinder 8 Glow Plug Circuit/Open		
P0679	Cylinder 9 Glow Plug Circuit/Open		
P067A	Cylinder 4 Glow Plug Control Circuit Low		
P067B	Cylinder 4 Glow Plug Control Circuit High		
P067C	Cylinder 5 Glow Plug Control Circuit Low		
P067D	Cylinder 5 Glow Plug Control Circuit High		
P067E	Cylinder 6 Glow Plug Control Circuit Low		
P067F	Cylinder 6 Glow Plug Control Circuit High		
P0680	Cylinder 10 Glow Plug Circuit/Open		
P0681	Cylinder 11 Glow Plug Circuit/Open		
P0682	Cylinder 12 Glow Plug Circuit/Open		
P0683	Glow Plug Control Module to PCM Communication Circuit		
P0684	Glow Plug Control Module to PCM Communication Circuit Range/Performance		
P0685	ECM/PCM Power Relay Control Circuit/Open		
P0686	ECM/PCM Power Relay Control Circuit Low		
P0687	ECM/PCM Power Relay Control Circuit High		
P0688	ECM/PCM Power Relay Sense Circuit/Open		
P0689	ECM/PCM Power Relay Sense Circuit Low		
P068A	ECM/PCM Power Relay De-Energized Performance - Too Early		
P068B	ECM/PCM Power Relay De-Energized Performance - Too Late		
P068C	Cylinder 7 Glow Plug Control Circuit Low		
P068D	Cylinder 7 Glow Plug Control Circuit High		
P068E	Cylinder 8 Glow Plug Control Circuit Low		
P068F	Cylinder 8 Glow Plug Control Circuit High		
P0690	ECM/PCM Power Relay Sense Circuit High		
P0691	Fan 1 Control Circuit Low		
P0692	Fan 1 Control Circuit High		
P0693	Fan 2 Control Circuit Low		
P0694	Fan 2 Control Circuit High		
P0695	Fan 3 Control Circuit Low		
P0696	Fan 3 Control Circuit High		
P0697	Sensor Reference Voltage "C" Circuit/Open		
P0698	Sensor Reference Voltage "C" Circuit Low		

DTC Number	DTC Naming	Location	Foot Note
P0699	Sensor Reference Voltage "C" Circuit High		
P069A	Cylinder 9 Glow Plug Control Circuit Low		
P069B	Cylinder 9 Glow Plug Control Circuit High		
P069C	Cylinder 10 Glow Plug Control Circuit Low		
P069D	Cylinder 10 Glow Plug Control Circuit High		
P069E	Fuel Pump Control Module Requested MIL Illumination		
P069F	Throttle Actuator Control Lamp Control Circuit		
P06A0	Variable A/C Compressor Control Circuit		
P06A1	Variable A/C Compressor Control Circuit Low		
P06A2	Variable A/C Compressor Control Circuit High		
P06A3	Sensor Reference Voltage "D" Circuit/Open		
P06A4	Sensor Reference Voltage "D" Circuit Low		
P06A5	Sensor Reference Voltage "D" Circuit High		
P06A6	Sensor Reference Voltage "A" Circuit Range/Performance		
P06A7	Sensor Reference Voltage "B" Circuit Range/Performance		
P06A8	Sensor Reference Voltage "C" Circuit Range/Performance		
P06A9	Sensor Reference Voltage "D" Circuit Range/Performance		
P06AA	PCM/ECM/TCM Internal Temperature "B" Too High		
P06AB	PCM/ECM/TCM Internal Temperature Sensor "B" Circuit		
P06AC	PCM/ECM/TCM Internal Temperature Sensor "B" Range/Performance		
P06AD	PCM/ECM/TCM Internal Temperature Sensor "B" Circuit Low		
P06AE	PCM/ECM/TCM Internal Temperature Sensor "B" Circuit High		
P06AF	Torque Management System - Forced Engine Shutdown		
P06B0	Sensor Power Supply "A" Circuit/Open		
P06B1	Sensor Power Supply "A" Circuit Low		
P06B2	Sensor Power Supply "A" Circuit High		
P06B3	Sensor Power Supply "B" Circuit/Open		
P06B4	Sensor Power Supply "B" Circuit Low		
P06B5	Sensor Power Supply "B" Circuit High		
P06B6	Internal Control Module Knock Sensor Processor 1 Performance		
P06B7	Internal Control Module Knock Sensor Processor 2 Performance		
P06B8	Internal Control Module Non-Volatile Random Access Memory (NVRAM) Error		
P06B9	Cylinder 1 Glow Plug Circuit Range/Performance		
P06BA	Cylinder 2 Glow Plug Circuit Range/Performance		
P06BB	Cylinder 3 Glow Plug Circuit Range/Performance		
P06BC	Cylinder 4 Glow Plug Circuit Range/Performance		
P06BD	Cylinder 5 Glow Plug Circuit Range/Performance		
P06BE	Cylinder 6 Glow Plug Circuit Range/Performance		
P06BF	Cylinder 7 Glow Plug Circuit Range/Performance		
P06C0	Cylinder 8 Glow Plug Circuit Range/Performance		
P06C1	Cylinder 9 Glow Plug Circuit Range/Performance		
P06C2	Cylinder 10 Glow Plug Circuit Range/Performance		
P06C3	Cylinder 11 Glow Plug Circuit Range/Performance		
P06C4	Cylinder 12 Glow Plug Circuit Range/Performance		
P06C5	Cylinder 1 Glow Plug Incorrect		
P06C6	Cylinder 2 Glow Plug Incorrect		
P06C7	Cylinder 3 Glow Plug Incorrect		
P06C8	Cylinder 4 Glow Plug Incorrect		
P06C9	Cylinder 5 Glow Plug Incorrect		
P06CA	Cylinder 6 Glow Plug Incorrect		
P06CB	Cylinder 7 Glow Plug Incorrect		

DTC Number	DTC Naming	Location	Foot Note
P06CC	Cylinder 8 Glow Plug Incorrect		
P06CD	Cylinder 9 Glow Plug Incorrect		
P06CE	Cylinder 10 Glow Plug Incorrect		
P06CF	Cylinder 11 Glow Plug Incorrect		
P06D0	Cylinder 12 Glow Plug Incorrect		
P06D1	Internal Control Module Ignition Coil Control Performance		
P06D2 – P06FF	ISO/SAE Reserved		

c) DTC Application note for Intake Manifold Tuning Valves and Intake Manifold Runner controls: Active controls are used to modify or control airflow within the engine air intake system. These controls may be used to enhance or modify in-cylinder airflow motion (charge motion), modify the airflow dynamics (manifold tuning) within the intake manifold or both. Devices that control charge motion are commonly called Intake Manifold Runner Control, Swirl Control Valve, and Charge Motion Control Valve. The ISO/SAE recommended term for any device that controls charge motion is Intake Manifold Runner Control (IMRC). Devices that control manifold dynamics or manifold tuning are commonly called Intake Manifold Tuning Valve, Long/Short Runner Control and Intake Manifold Communication Control. The SAE recommended term for any device that controls manifold tuning is Intake Manifold Tuning (IMT) Valve.

TABLE D8 - P07XX TRANSMISSION

DTC Number	DTC Naming	Location	Foot Note
P0700	Transmission Control System (MIL Request)		
P0701	Transmission Control System Range/Performance		
P0702	Transmission Control System Electrical		
P0703	Brake Switch "B" Circuit		
P0704	Clutch Switch Input Circuit		
P0705	Transmission Range Sensor "A" Circuit (PRNDL Input)		
P0706	Transmission Range Sensor "A" Circuit Range/Performance		
P0707	Transmission Range Sensor "A" Circuit Low		
P0708	Transmission Range Sensor "A" Circuit High		
P0709	Transmission Range Sensor "A" Circuit Intermittent		
P070A	Transmission Fluid Level Sensor Circuit		
P070B	Transmission Fluid Level Sensor Circuit Range/Performance		
P070C	Transmission Fluid Level Sensor Circuit Low		
P070D	Transmission Fluid Level Sensor Circuit High		
P070E	Transmission Fluid Level Sensor Circuit intermittent/Erratic		
P070F	Transmission Fluid Level Too Low		
P0710	Transmission Fluid Temperature Sensor "A" Circuit		
P0711	Transmission Fluid Temperature Sensor "A" Circuit Range/Performance		
P0712	Transmission Fluid Temperature Sensor "A" Circuit Low		
P0713	Transmission Fluid Temperature Sensor "A" Circuit High		
P0714	Transmission Fluid Temperature Sensor "A" Circuit Intermittent		
P0715	Input/Turbine Speed Sensor "A" Circuit		
P0716	Input/Turbine Speed Sensor "A" Circuit Range/Performance		
P0717	Input/Turbine Speed Sensor "A" Circuit No Signal		
P0718	Input/Turbine Speed Sensor "A" Circuit Intermittent		
P0719	Brake Switch "B" Circuit Low		
P071A	Transmission Mode Switch "A" Circuit		
P071B	Transmission Mode Switch "A" Circuit Low		
P071C	Transmission Mode Switch "A" Circuit High		
P071D	Transmission Mode Switch "B" Circuit		
P071E	Transmission Mode Switch "B" Circuit Low		
P071F	Transmission Mode Switch "B" Circuit High		

DTC Number	DTC Naming	Location	Foot Note
P0720	Output Speed Sensor Circuit		
P0721	Output Speed Sensor Circuit Range/Performance		
P0722	Output Speed Sensor Circuit No Signal		
P0723	Output Speed Sensor Circuit Intermittent		
P0724	Brake Switch "B" Circuit High		
P0725	Engine Speed Input Circuit		
P0726	Engine Speed Input Circuit Range/Performance		
P0727	Engine Speed Input Circuit No Signal		
P0728	Engine Speed Input Circuit Intermittent		
P0729	Gear 6 Incorrect Ratio		
P072A	Stuck in Neutral		
P072B	Stuck In Reverse		
P072C	Stuck in Gear 1		
P072D	Stuck in Gear 2		
P072E	Stuck in Gear 3		
P072F	Stuck in Gear 4		
P0730	Incorrect Gear Ratio		
P0731	Gear 1 Incorrect Ratio		
P0732	Gear 2 Incorrect Ratio		
P0733	Gear 3 Incorrect Ratio		
P0734	Gear 4 Incorrect Ratio		
P0735	Gear 5 Incorrect Ratio		
P0736	Reverse Incorrect Ratio		
P0737	TCM Engine Speed Output Circuit		
P0738	TCM Engine Speed Output Circuit Low		
P0739	TCM Engine Speed Output Circuit High		
P073A	Stuck in Gear 5		
P073B	Stuck in Gear 6		
P073C	Stuck in Gear 7		
P073D	Unable to Engage Neutral		
P073E	Unable to Engage Reverse		
P073F	Unable to Engage Gear 1		
P0740	Torque Converter Clutch Circuit/Open		
P0741	Torque Converter Clutch Circuit Performance/Stuck Off		
P0742	Torque Converter Clutch Circuit Stuck On		
P0743	Torque Converter Clutch Circuit Electrical		
P0744	Torque Converter Clutch Circuit Intermittent		
P0745	Pressure Control Solenoid "A"		
P0746	Pressure Control Solenoid "A" Performance/Stuck Off		
P0747	Pressure Control Solenoid "A" Stuck On		
P0748	Pressure Control Solenoid "A" Electrical		
P0749	Pressure Control Solenoid "A" Intermittent		
P074A	Unable To Engage Gear 2		
P074B	Unable To Engage Gear 3		
P074C	Unable To Engage Gear 4		
P074D	Unable To Engage Gear 5		
P074E	Unable To Engage Gear 6		
P074F	Unable To Engage Gear 7		
P0750	Shift Solenoid "A"		
P0751	Shift Solenoid "A" Performance/Stuck Off		
P0752	Shift Solenoid "A" Stuck On		
P0753	Shift Solenoid "A" Electrical		

DTC Number	DTC Naming	Location	Foot Note
P0754	Shift Solenoid "A" Intermittent		
P0755	Shift Solenoid "B"		
P0756	Shift Solenoid "B" Performance/Stuck Off		
P0757	Shift Solenoid "B" Stuck On		
P0758	Shift Solenoid "B" Electrical		
P0759	Shift Solenoid "B" Intermittent		
P075A	Shift Solenoid "G"		
P075B	Shift Solenoid "G" Performance/Stuck Off		
P075C	Shift Solenoid "G" Stuck On		
P075D	Shift Solenoid "G" Electrical		
P075E	Shift Solenoid "G" Intermittent		
P075F	Transmission Fluid Level Too High		
P0760	Shift Solenoid "C"		
P0761	Shift Solenoid "C" Performance/Stuck Off		
P0762	Shift Solenoid "C" Stuck On		
P0763	Shift Solenoid "C" Electrical		
P0764	Shift Solenoid "C" Intermittent		
P0765	Shift Solenoid "D"		
P0766	Shift Solenoid "D" Performance/Stuck Off		
P0767	Shift Solenoid "D" Stuck On		
P0768	Shift Solenoid "D" Electrical		
P0769	Shift Solenoid "D" Intermittent		
P076A	Shift Solenoid "H"		
P076B	Shift Solenoid "H" Performance/Stuck Off		
P076C	Shift Solenoid "H" Stuck On		
P076D	Shift Solenoid "H" Electrical		
P076E	Shift Solenoid "H" Intermittent		
P076F	Gear 7 Incorrect Ratio		
P0770	Shift Solenoid "E"		
P0771	Shift Solenoid "E" Performance/Stuck Off		
P0772	Shift Solenoid "E" Stuck On		
P0773	Shift Solenoid "E" Electrical		
P0774	Shift Solenoid "E" Intermittent		
P0775	Pressure Control Solenoid "B"		
P0776	Pressure Control Solenoid "B" Performance/Stuck Off		
P0777	Pressure Control Solenoid "B" Stuck On		
P0778	Pressure Control Solenoid "B" Electrical		
P0779	Pressure Control Solenoid "B" Intermittent		
P077A	Output Speed Sensor Circuit - Loss of Direction Signal		
P077B	Output Speed Sensor Circuit - Direction Error		
P077C	ISO/SAE Reserved		
P077D	ISO/SAE Reserved		
P077E	ISO/SAE Reserved		
P077F	ISO/SAE Reserved		
P0780	Shift Error		
P0781	1-2 Shift		
P0782	2-3 Shift		
P0783	3-4 Shift		
P0784	4-5 Shift		
P0785	Shift Timing Solenoid "A"		
P0786	Shift Timing Solenoid "A" Range/Performance		
P0787	Shift Timing Solenoid "A" Low		

DTC Number	DTC Naming	Location	Foot Note
P0788	Shift Timing Solenoid "A" High		
P0789	Shift Timing Solenoid "A" Intermittent		
P078A	Shift Timing Solenoid "B"		
P078B	Shift Timing Solenoid "B" Range/Performance		
P078C	Shift Timing Solenoid "B" Low		
P078D	Shift Timing Solenoid "B" High		
P078E	Shift Timing Solenoid "B" Intermittent		
P078F	ISO/SAE Reserved		
P0790	Normal/Performance Switch Circuit		
P0791	Intermediate Shaft Speed Sensor "A" Circuit		
P0792	Intermediate Shaft Speed Sensor "A" Circuit Range/Performance		
P0793	Intermediate Shaft Speed Sensor "A" Circuit No Signal		
P0794	Intermediate Shaft Speed Sensor "A" Circuit Intermittent		
P0795	Pressure Control Solenoid "C"		
P0796	Pressure Control Solenoid "C" Performance/Stuck Off		
P0797	Pressure Control Solenoid "C" Stuck On		
P0798	Pressure Control Solenoid "C" Electrical		
P0799	Pressure Control Solenoid "C" Intermittent		
P079A	Transmission Friction Element "A" Slip Detected		
P079B	Transmission Friction Element "B" Slip Detected		
P079C	Transmission Friction Element "C" Slip Detected		
P079D	Transmission Friction Element "D" Slip Detected		
P079E	Transmission Friction Element "E" Slip Detected		
P079F	Transmission Friction Element "F" Slip Detected		
P07A0	Transmission Friction Element "G" Slip Detected		
P07A1	Transmission Friction Element "H" Slip Detected		
P07A2	Transmission Friction Element "A" Performance/Stuck Off		
P07A3	Transmission Friction Element "A" Stuck On		
P07A4	Transmission Friction Element "B" Performance/Stuck Off		
P07A5	Transmission Friction Element "B" Stuck On		
P07A6	Transmission Friction Element "C" Performance/Stuck Off		
P07A7	Transmission Friction Element "C" Stuck On		
P07A8	Transmission Friction Element "D" Performance/Stuck Off		
P07A9	Transmission Friction Element "D" Stuck On		
P07AA	Transmission Friction Element "E" Performance/Stuck Off		
P07AB	Transmission Friction Element "E" Stuck On		
P07AC	Transmission Friction Element "F" Performance/Stuck Off		
P07AD	Transmission Friction Element "F" Stuck On		
P07AE	Transmission Friction Element "G" Performance/Stuck Off		
P07AF	Transmission Friction Element "G" Stuck On		
P07B0	Transmission Friction Element "H" Performance/Stuck Off		
P07B1	Transmission Friction Element "H" Stuck On		
P07B2	Transmission Park Position Sensor/Switch "A" Circuit/Open		
P07B3	Transmission Park Position Sensor/Switch "A" Circuit Low		
P07B4	Transmission Park Position Sensor/Switch "A" Circuit High		
P07B5	Transmission Park Position Sensor/Switch "A" Circuit Performance/Low		
P07B6	Transmission Park Position Sensor/Switch "A" Circuit Performance High		
P07B7	Transmission Park Position Sensor/Switch "A" Circuit Intermittent/Erratic		
P07B8	Transmission Park Position Sensor/Switch "B" Circuit/Open		
P07B9	Transmission Park Position Sensor/Switch "B" Circuit Low		

DTC Number	DTC Naming	Location	Foot Note
P07BA	Transmission Park Position Sensor/Switch "B" Circuit High		
P07BB	Transmission Park Position Sensor/Switch "B" Circuit Performance/Low		
P07BC	Transmission Park Position Sensor/Switch "B" Circuit Performance High		
P07BD	Transmission Park Position Sensor/Switch "B" Circuit Intermittent/Erratic		
P07BE	Transmission Park Position Sensor/Switch "A"/"B" Correlation		
P07BF – P07FF	ISO/SAE Reserved		

TABLE D9 - P08XX TRANSMISSION

DTC Number	DTC Naming	Location	Foot Note
P0800	Transfer Case Control System (MIL Request)		
P0801	Reverse Inhibit Control Circuit		
P0802	Transmission Control System MIL Request Circuit/Open		
P0803	Upshift/Skip Shift Solenoid Control Circuit		
P0804	Upshift/Skip Shift Lamp Control Circuit		
P0805	Clutch Position Sensor Circuit		
P0806	Clutch Position Sensor Circuit Range/Performance		
P0807	Clutch Position Sensor Circuit Low		
P0808	Clutch Position Sensor Circuit High		
P0809	Clutch Position Sensor Circuit Intermittent		
P080A	Clutch Position Not Learned		
P080B	Upshift/Skip Shift Solenoid Control Circuit Range/Performance		
P080C	Upshift/Skip Shift Solenoid Control Circuit Low		
P080D	Upshift/Skip Shift Solenoid Control Circuit High		
P080E	ISO/SAE Reserved		
P080F	ISO/SAE Reserved		
P0810	Clutch Position Control Error		
P0811	Excessive Clutch "A" Slippage		
P0812	Reverse Input Circuit		
P0813	Reverse Output Circuit		
P0814	Transmission Range Display Circuit		
P0815	Upshift Switch Circuit		
P0816	Downshift Switch Circuit		
P0817	Starter Disable Circuit/Open		
P0818	Driveline Disconnect Switch Input Circuit		
P0819	Up and Down Shift Switch to Transmission Range Correlation		
P081A	Starter Disable Circuit Low		
P081B	Starter Disable Circuit High		
P081C	Park Input Circuit		
P081D	Neutral Input Circuit		
P081E	Excessive Clutch "B" Slippage		
P081F	ISO/SAE Reserved		
P0820	Gear Lever X-Y Position Sensor Circuit		
P0821	Gear Lever X Position Circuit		
P0822	Gear Lever Y Position Circuit		
P0823	Gear Lever X Position Circuit Intermittent		
P0824	Gear Lever Y Position Circuit Intermittent		
P0825	Gear Lever Push-Pull Switch (Shift Anticipate)		
P0826	Up and Down Shift Switch Circuit		
P0827	Up and Down Shift Switch Circuit Low		

DTC Number	DTC Naming	Location	Foot Note
P0828	Up and Down Shift Switch Circuit High		
P0829	5-6 Shift		
P082A	Gear Lever X Position Circuit Range/Performance		
P082B	Gear Lever X Position Circuit Low		
P082C	Gear Lever X Position Circuit High		
P082D	Gear Lever Y Position Circuit Range/Performance		
P082E	Gear Lever Y Position Circuit Low		
P082F	Gear Lever Y Position Circuit High		
P0830	Clutch Pedal Switch "A" Circuit		
P0831	Clutch Pedal Switch "A" Circuit Low		
P0832	Clutch Pedal Switch "A" Circuit High		
P0833	Clutch Pedal Switch "B" Circuit		
P0834	Clutch Pedal Switch "B" Circuit Low		
P0835	Clutch Pedal Switch "B" Circuit High		
P0836	Four Wheel Drive (4WD) Switch Circuit		
P0837	Four Wheel Drive (4WD) Switch Circuit Range/Performance		
P0838	Four Wheel Drive (4WD) Switch Circuit Low		
P0839	Four Wheel Drive (4WD) Switch Circuit High		
P083A	Transmission Fluid Pressure Sensor/Switch "G" Circuit		
P083B	Transmission Fluid Pressure Sensor/Switch "G" Circuit Range/Performance		
P083C	Transmission Fluid Pressure Sensor/Switch "G" Circuit Low		
P083D	Transmission Fluid Pressure Sensor/Switch "G" Circuit High		
P083E	Transmission Fluid Pressure Sensor/Switch "G" Circuit Intermittent		
P083F	Clutch Pedal Switch "A"/"B" Correlation		
P0840	Transmission Fluid Pressure Sensor/Switch "A" Circuit		
P0841	Transmission Fluid Pressure Sensor/Switch "A" Circuit Range/Performance		
P0842	Transmission Fluid Pressure Sensor/Switch "A" Circuit Low		
P0843	Transmission Fluid Pressure Sensor/Switch "A" Circuit High		
P0844	Transmission Fluid Pressure Sensor/Switch "A" Circuit Intermittent		
P0845	Transmission Fluid Pressure Sensor/Switch "B" Circuit		
P0846	Transmission Fluid Pressure Sensor/Switch "B" Circuit Range/Performance		
P0847	Transmission Fluid Pressure Sensor/Switch "B" Circuit Low		
P0848	Transmission Fluid Pressure Sensor/Switch "B" Circuit High		
P0849	Transmission Fluid Pressure Sensor/Switch "B" Circuit Intermittent		
P084A	Transmission Fluid Pressure Sensor/Switch "H" Circuit		
P084B	Transmission Fluid Pressure Sensor/Switch "H" Circuit Range/Performance		
P084C	Transmission Fluid Pressure Sensor/Switch "H" Circuit Low		
P084D	Transmission Fluid Pressure Sensor/Switch "H" Circuit High		
P084E	Transmission Fluid Pressure Sensor/Switch "H" Circuit Intermittent		
P084F	Park/Neutral Switch Output Circuit		
P0850	Park/Neutral Switch Input Circuit		
P0851	Park/Neutral Switch Input Circuit Low		
P0852	Park/Neutral Switch Input Circuit High		
P0853	Drive Switch Input Circuit		
P0854	Drive Switch Input Circuit Low		
P0855	Drive Switch Input Circuit High		
P0856	Traction Control Input Signal		
P0857	Traction Control Input Signal Range/Performance		
P0858	Traction Control Input Signal Low		

DTC Number	DTC Naming	Location	Foot Note
P0859	Traction Control Input Signal High		
P085A	Gear Shift Control Module "B" Communication Circuit		
P085B	Gear Shift Control Module "B" Communication Circuit Low		
P085C	Gear Shift Control Module "B" Communication Circuit High		
P085D	Gear Shift Control Module "A" Performance		
P085E	Gear Shift Control Module "B" Performance		
P085F	ISO/SAE Reserved		
P0860	Gear Shift Control Module "A" Communication Circuit		
P0861	Gear Shift Control Module "A" Communication Circuit Low		
P0862	Gear Shift Control Module "A" Communication Circuit High		
P0863	TCM Communication Circuit		
P0864	TCM Communication Circuit Range/Performance		
P0865	TCM Communication Circuit Low		
P0866	TCM Communication Circuit High		
P0867	Transmission Fluid Pressure		
P0868	Transmission Fluid Pressure Low		
P0869	Transmission Fluid Pressure High		
P086A	ISO/SAE Reserved		
P086B	ISO/SAE Reserved		
P086C	ISO/SAE Reserved		
P086D	ISO/SAE Reserved		
P086E	ISO/SAE Reserved		
P086F	ISO/SAE Reserved		
P0870	Transmission Fluid Pressure Sensor/Switch "C" Circuit		
P0871	Transmission Fluid Pressure Sensor/Switch "C" Circuit Range/Performance		
P0872	Transmission Fluid Pressure Sensor/Switch "C" Circuit Low		
P0873	Transmission Fluid Pressure Sensor/Switch "C" Circuit High		
P0874	Transmission Fluid Pressure Sensor/Switch "C" Circuit Intermittent		
P0875	Transmission Fluid Pressure Sensor/Switch "D" Circuit		
P0876	Transmission Fluid Pressure Sensor/Switch "D" Circuit Range/Performance		
P0877	Transmission Fluid Pressure Sensor/Switch "D" Circuit Low		
P0878	Transmission Fluid Pressure Sensor/Switch "D" Circuit High		
P0879	Transmission Fluid Pressure Sensor/Switch "D" Circuit Intermittent		
P087A	ISO/SAE Reserved		
P087B	ISO/SAE Reserved		
P087C	ISO/SAE Reserved		
P087D	ISO/SAE Reserved		
P087E	ISO/SAE Reserved		
P087F	ISO/SAE Reserved		
P0880	TCM Power Input Signal		
P0881	TCM Power Input Signal Range/Performance		
P0882	TCM Power Input Signal Low		
P0883	TCM Power Input Signal High		
P0884	TCM Power Input Signal Intermittent		
P0885	TCM Power Relay Control Circuit/Open		
P0886	TCM Power Relay Control Circuit Low		
P0887	TCM Power Relay Control Circuit High		
P0888	TCM Power Relay Sense Circuit		
P0889	TCM Power Relay Sense Circuit Range/Performance		
P088A	Transmission Fluid Filter Deteriorated		
P088B	Transmission Fluid Filter Very Deteriorated		

DTC Number	DTC Naming	Location	Foot Note
P088C	ISO/SAE Reserved		
P088D	ISO/SAE Reserved		
P088E	ISO/SAE Reserved		
P088F	ISO/SAE Reserved		
P0890	TCM Power Relay Sense Circuit Low		
P0891	TCM Power Relay Sense Circuit High		
P0892	TCM Power Relay Sense Circuit Intermittent		
P0893	Multiple Gears Engaged		
P0894	Transmission Component Slipping		
P0895	Shift Time Too Short		
P0896	Shift Time Too Long		
P0897	Transmission Fluid Deteriorated		
P0898	Transmission Control System MIL Request Circuit Low		
P0899	Transmission Control System MIL Request Circuit High		
P089A – P08FF	ISO/SAE Reserved		

TABLE D10 - P09XX TRANSMISSION

DTC Number	DTC Naming	Location	Foot Note
P0900	Clutch Actuator Circuit/Open		
P0901	Clutch Actuator Circuit Range/Performance		
P0902	Clutch Actuator Circuit Low		
P0903	Clutch Actuator Circuit High		
P0904	Gate Select Position Circuit		
P0905	Gate Select Position Circuit Range/Performance		
P0906	Gate Select Position Circuit Low		
P0907	Gate Select Position Circuit High		
P0908	Gate Select Position Circuit Intermittent		
P0909	Gate Select Control Error		
P090A	ISO/SAE Reserved		
P090B	ISO/SAE Reserved		
P090C	ISO/SAE Reserved		
P090D	ISO/SAE Reserved		
P090E	ISO/SAE Reserved		
P090F	ISO/SAE Reserved		
P0910	Gate Select Actuator Circuit/Open		
P0911	Gate Select Actuator Circuit Range/Performance		
P0912	Gate Select Actuator Circuit Low		
P0913	Gate Select Actuator Circuit High		
P0914	Gear Shift Position Circuit		
P0915	Gear Shift Position Circuit Range/Performance		
P0916	Gear Shift Position Circuit Low		
P0917	Gear Shift Position Circuit High		
P0918	Gear Shift Position Circuit Intermittent		
P0919	Gear Shift Position Control Error		
P091A	ISO/SAE Reserved		
P091B	ISO/SAE Reserved		
P091C	ISO/SAE Reserved		
P091D	ISO/SAE Reserved		
P091E	ISO/SAE Reserved		
P091F	ISO/SAE Reserved		
P0920	Gear Shift Forward Actuator Circuit/Open		

DTC Number	DTC Naming	Location	Foot Note
P0921	Gear Shift Forward Actuator Circuit Range/Performance		
P0922	Gear Shift Forward Actuator Circuit Low		
P0923	Gear Shift Forward Actuator Circuit High		
P0924	Gear Shift Reverse Actuator Circuit/Open		
P0925	Gear Shift Reverse Actuator Circuit Range/Performance		
P0926	Gear Shift Reverse Actuator Circuit Low		
P0927	Gear Shift Reverse Actuator Circuit High		
P0928	Gear Shift Lock Solenoid/Actuator Control Circuit "A"/Open		
P0929	Gear Shift Lock Solenoid/Actuator Control Circuit "A" Range/Performance		
P092A	Gear Shift Lock Solenoid/Actuator Control Circuit "B"/Open		
P092B	Gear Shift Lock Solenoid/Actuator Control Circuit "B" Range/Performance		
P092C	Gear Shift Lock Solenoid/Actuator Control Circuit "B" Low		
P092D	Gear Shift Lock Solenoid/Actuator Control Circuit "B" High		
P092E	ISO/SAE Reserved		
P092F	ISO/SAE Reserved		
P0930	Gear Shift Lock Solenoid/Actuator Control Circuit "A" Low		
P0931	Gear Shift Lock Solenoid/Actuator Control Circuit "A" High		
P0932	Hydraulic Pressure Sensor Circuit		
P0933	Hydraulic Pressure Sensor Range/Performance		
P0934	Hydraulic Pressure Sensor Circuit Low		
P0935	Hydraulic Pressure Sensor Circuit High		
P0936	Hydraulic Pressure Sensor Circuit Intermittent		
P0937	Hydraulic Oil Temperature Sensor Circuit		
P0938	Hydraulic Oil Temperature Sensor Range/Performance		
P0939	Hydraulic Oil Temperature Sensor Circuit Low		
P093A	ISO/SAE Reserved		
P093B	ISO/SAE Reserved		
P093C	ISO/SAE Reserved		
P093D	ISO/SAE Reserved		
P093E	ISO/SAE Reserved		
P093F	ISO/SAE Reserved		
P0940	Hydraulic Oil Temperature Sensor Circuit High		
P0941	Hydraulic Oil Temperature Sensor Circuit Intermittent		
P0942	Hydraulic Pressure Unit		
P0943	Hydraulic Pressure Unit Cycling Period Too Short		
P0944	Hydraulic Pressure Unit Loss of Pressure		
P0945	Hydraulic Pump Relay Circuit/Open		
P0946	Hydraulic Pump Relay Circuit Range/Performance		
P0947	Hydraulic Pump Relay Circuit Low		
P0948	Hydraulic Pump Relay Circuit High		
P0949	Auto Shift Manual Adaptive Learning Not Complete		
P094A	ISO/SAE Reserved		
P094B	ISO/SAE Reserved		
P094C	ISO/SAE Reserved		
P094D	ISO/SAE Reserved		
P094E	ISO/SAE Reserved		
P094F	ISO/SAE Reserved		
P0950	Auto Shift Manual Control Circuit		
P0951	Auto Shift Manual Control Circuit Range/Performance		
P0952	Auto Shift Manual Control Circuit Low		
P0953	Auto Shift Manual Control Circuit High		

DTC Number	DTC Naming	Location	Foot Note
P0954	Auto Shift Manual Control Circuit Intermittent		
P0955	Auto Shift Manual Mode Circuit		
P0956	Auto Shift Manual Mode Circuit Range/Performance		
P0957	Auto Shift Manual Mode Circuit Low		
P0958	Auto Shift Manual Mode Circuit High		
P0959	Auto Shift Manual Mode Circuit Intermittent		
P095A	ISO/SAE Reserved		
P095B	ISO/SAE Reserved		
P095C	ISO/SAE Reserved		
P095D	ISO/SAE Reserved		
P095E	ISO/SAE Reserved		
P095F	ISO/SAE Reserved		
P0960	Pressure Control Solenoid "A" Control Circuit/Open		
P0961	Pressure Control Solenoid "A" Control Circuit Range/Performance		
P0962	Pressure Control Solenoid "A" Control Circuit Low		
P0963	Pressure Control Solenoid "A" Control Circuit High		
P0964	Pressure Control Solenoid "B" Control Circuit/Open		
P0965	Pressure Control Solenoid "B" Control Circuit Range/Performance		
P0966	Pressure Control Solenoid "B" Control Circuit Low		
P0967	Pressure Control Solenoid "B" Control Circuit High		
P0968	Pressure Control Solenoid "C" Control Circuit/Open		
P0969	Pressure Control Solenoid "C" Control Circuit Range/Performance		
P096A	ISO/SAE Reserved		
P096B	ISO/SAE Reserved		
P096C	ISO/SAE Reserved		
P096D	ISO/SAE Reserved		
P096E	ISO/SAE Reserved		
P096F	ISO/SAE Reserved		
P0970	Pressure Control Solenoid "C" Control Circuit Low		
P0971	Pressure Control Solenoid "C" Control Circuit High		
P0972	Shift Solenoid "A" Control Circuit Range/Performance		
P0973	Shift Solenoid "A" Control Circuit Low		
P0974	Shift Solenoid "A" Control Circuit High		
P0975	Shift Solenoid "B" Control Circuit Range/Performance		
P0976	Shift Solenoid "B" Control Circuit Low		
P0977	Shift Solenoid "B" Control Circuit High		
P0978	Shift Solenoid "C" Control Circuit Range/Performance		
P0979	Shift Solenoid "C" Control Circuit Low		
P097A	ISO/SAE Reserved		
P097B	ISO/SAE Reserved		
P097C	ISO/SAE Reserved		
P097D	ISO/SAE Reserved		
P097E	ISO/SAE Reserved		
P097F	ISO/SAE Reserved		
P0980	Shift Solenoid "C" Control Circuit High		
P0981	Shift Solenoid "D" Control Circuit Range/Performance		
P0982	Shift Solenoid "D" Control Circuit Low		
P0983	Shift Solenoid "D" Control Circuit High		
P0984	Shift Solenoid "E" Control Circuit Range/Performance		
P0985	Shift Solenoid "E" Control Circuit Low		
P0986	Shift Solenoid "E" Control Circuit High		
P0987	Transmission Fluid Pressure Sensor/Switch "E" Circuit		

DTC Number	DTC Naming	Location	Foot Note
P0988	Transmission Fluid Pressure Sensor/Switch "E" Circuit Range/Performance		
P0989	Transmission Fluid Pressure Sensor/Switch "E" Circuit Low		
P098A	ISO/SAE Reserved		
P098B	ISO/SAE Reserved		
P098C	ISO/SAE Reserved		
P098D	ISO/SAE Reserved		
P098E	ISO/SAE Reserved		
P098F	ISO/SAE Reserved		
P0990	Transmission Fluid Pressure Sensor/Switch "E" Circuit High		
P0991	Transmission Fluid Pressure Sensor/Switch "E" Circuit Intermittent		
P0992	Transmission Fluid Pressure Sensor/Switch "F" Circuit		
P0993	Transmission Fluid Pressure Sensor/Switch "F" Circuit Range/Performance		
P0994	Transmission Fluid Pressure Sensor/Switch "F" Circuit Low		
P0995	Transmission Fluid Pressure Sensor/Switch "F" Circuit High		
P0996	Transmission Fluid Pressure Sensor/Switch "F" Circuit Intermittent		
P0997	Shift Solenoid "F" Control Circuit Range/Performance		
P0998	Shift Solenoid "F" Control Circuit Low		
P0999	Shift Solenoid "F" Control Circuit High		
P099A	Shift Solenoid "G" Control Circuit Range/Performance		
P099B	Shift Solenoid "G" Control Circuit Low		
P099C	Shift Solenoid "G" Control Circuit High		
P099D	Shift Solenoid "H" Control Circuit Range/Performance		
P099E	Shift Solenoid "H" Control Circuit Low		
P099F	Shift Solenoid "H" Control Circuit High		
P09A0 – P09FF	ISO/SAE Reserved		

TABLE D11 - P0AXX HYBRID PROPULSION

DTC Number	DTC Naming	Location	Foot Note
P0A00	Motor Electronics Coolant Temperature Sensor Circuit		
P0A01	Motor Electronics Coolant Temperature Sensor Circuit Range/Performance		
P0A02	Motor Electronics Coolant Temperature Sensor Circuit Low		
P0A03	Motor Electronics Coolant Temperature Sensor Circuit High		
P0A04	Motor Electronics Coolant Temperature Sensor Circuit Intermittent		
P0A05	Motor Electronics Coolant Pump "A" Control Circuit/Open		
P0A06	Motor Electronics Coolant Pump "A" Control Circuit Low		
P0A07	Motor Electronics Coolant Pump "A" Control Circuit High		
P0A08	DC/DC Converter Status Circuit		
P0A09	DC/DC Converter Status Circuit Low		
P0A0A	High Voltage System Interlock Circuit		
P0A0B	High Voltage System Interlock Circuit Performance		
P0A0C	High Voltage System Interlock Circuit Low		
P0A0D	High Voltage System Interlock Circuit High		
P0A0E	High Voltage System Interlock Circuit Intermittent		
P0A0F	Engine Failed to Start		
P0A10	DC/DC Converter Status Circuit High		
P0A11	DC/DC Converter Enable Circuit/Open		
P0A12	DC/DC Converter Enable Circuit Low		
P0A13	DC/DC Converter Enable Circuit High		
P0A14	Engine Mount "A" Control Circuit/Open		

P0A15	Engine Mount "A" Control Circuit Low
P0A16	Engine Mount "A" Control Circuit High
P0A17	Motor Torque Sensor Circuit
P0A18	Motor Torque Sensor Circuit Range/Performance
P0A19	Motor Torque Sensor Circuit Low
P0A1A	Generator Control Module
P0A1B	Drive Motor "A" Control Module
P0A1C	Drive Motor "B" Control Module
P0A1D	Hybrid Powertrain Control Module
P0A1E	Starter/Generator Control Module
P0A1F	Battery Energy Control Module
P0A20	Motor Torque Sensor Circuit High
P0A21	Motor Torque Sensor Circuit Intermittent
P0A22	Generator Torque Sensor Circuit
P0A23	Generator Torque Sensor Circuit Range/Performance
P0A24	Generator Torque Sensor Circuit Low
P0A25	Generator Torque Sensor Circuit High
P0A26	Generator Torque Sensor Circuit Intermittent
P0A27	Hybrid Battery Power Off Circuit
P0A28	Hybrid Battery Power Off Circuit Low
P0A29	Hybrid Battery Power Off Circuit High
P0A2A	Drive Motor "A" Temperature Sensor Circuit
P0A2B	Drive Motor "A" Temperature Sensor Circuit Range/Performance
P0A2C	Drive Motor "A" Temperature Sensor Circuit Low
P0A2D	Drive Motor "A" Temperature Sensor Circuit High
P0A2E	Drive Motor "A" Temperature Sensor Circuit Intermittent
P0A2F	Drive Motor "A" Over Temperature
P0A30	Drive Motor "B" Temperature Sensor Circuit
P0A31	Drive Motor "B" Temperature Sensor Circuit Range/Performance
P0A32	Drive Motor "B" Temperature Sensor Circuit Low
P0A33	Drive Motor "B" Temperature Sensor Circuit High
P0A34	Drive Motor "B" Temperature Sensor Circuit Intermittent
P0A35	Drive Motor "B" Over Temperature
P0A36	Generator Temperature Sensor Circuit
P0A37	Generator Temperature Sensor Circuit Range/Performance
P0A38	Generator Temperature Sensor Circuit Low
P0A39	Generator Temperature Sensor Circuit High
P0A3A	Generator Temperature Sensor Circuit Intermittent
P0A3B	Generator Over Temperature
P0A3C	Drive Motor "A" Inverter Over Temperature
P0A3D	Drive Motor "B" Inverter Over Temperature
P0A3E	Generator Inverter Over Temperature
P0A3F	Drive Motor "A" Position Sensor Circuit
P0A40	Drive Motor "A" Position Sensor Circuit Range/Performance
P0A41	Drive Motor "A" Position Sensor Circuit Low
P0A42	Drive Motor "A" Position Sensor Circuit High
P0A43	Drive Motor "A" Position Sensor Circuit Intermittent
P0A44	Drive Motor "A" Position Sensor Circuit Overspeed
P0A45	Drive Motor "B" Position Sensor Circuit
P0A46	Drive Motor "B" Position Sensor Circuit Range/Performance
P0A47	Drive Motor "B" Position Sensor Circuit Low
P0A48	Drive Motor "B" Position Sensor Circuit High
P0A49	Drive Motor "B" Position Sensor Circuit Intermittent

P0A4A	Drive Motor "B" Position Sensor Circuit Overspeed
P0A4B	Generator Position Sensor Circuit
P0A4C	Generator Position Sensor Circuit Range/Performance
P0A4D	Generator Position Sensor Circuit Low
P0A4E	Generator Position Sensor Circuit High
P0A4F	Generator Position Sensor Circuit Intermittent
P0A50	Generator Position Sensor Circuit Overspeed
P0A51	Drive Motor "A" Current Sensor Circuit
P0A52	Drive Motor "A" Current Sensor Circuit Range/Performance
P0A53	Drive Motor "A" Current Sensor Circuit Low
P0A54	Drive Motor "A" Current Sensor Circuit High
P0A55	Drive Motor "B" Current Sensor Circuit
P0A56	Drive Motor "B" Current Sensor Circuit Range/Performance
P0A57	Drive Motor "B" Current Sensor Circuit Low
P0A58	Drive Motor "B" Current Sensor Circuit High
P0A59	Generator Current Sensor Circuit
P0A5A	Generator Current Sensor Circuit Range/Performance
P0A5B	Generator Current Sensor Circuit Low
P0A5C	Generator Current Sensor Circuit High
P0A5D	Drive Motor "A" Phase U Current
P0A5E	Drive Motor "A" Phase U Current Low
P0A5F	Drive Motor "A" Phase U Current High
P0A60	Drive Motor "A" Phase V Current
P0A61	Drive Motor "A" Phase V Current Low
P0A62	Drive Motor "A" Phase V Current High
P0A63	Drive Motor "A" Phase W Current
P0A64	Drive Motor "A" Phase W Current Low
P0A65	Drive Motor "A" Phase W Current High
P0A66	Drive Motor "B" Phase U Current
P0A67	Drive Motor "B" Phase U Current Low
P0A68	Drive Motor "B" Phase U Current High
P0A69	Drive Motor "B" Phase V Current
P0A6A	Drive Motor "B" Phase V Current Low
P0A6B	Drive Motor "B" Phase V Current High
P0A6C	Drive Motor "B" Phase W Current
P0A6D	Drive Motor "B" Phase W Current Low
P0A6E	Drive Motor "B" Phase W Current High
P0A6F	Generator Phase U Current
P0A70	Generator Phase U Current Low
P0A71	Generator Phase U Current High
P0A72	Generator Phase V Current
P0A73	Generator Phase V Current Low
P0A74	Generator Phase V Current High
P0A75	Generator Phase W Current
P0A76	Generator Phase W Current Low
P0A77	Generator Phase W Current High
P0A78	Drive Motor "A" Inverter Performance
P0A79	Drive Motor "B" Inverter Performance
P0A7A	Generator Inverter Performance
P0A7B	Battery Energy Control Module Requested MIL Illumination
P0A7C	Motor Electronics Over Temperature
P0A7D	Hybrid Battery Pack State of Charge Low
P0A7E	Hybrid Battery Pack Over Temperature

P0A7F	Hybrid Battery Pack Deterioration
P0A80	Replace Hybrid Battery Pack
P0A81	Hybrid Battery Pack Cooling Fan 1 Control Circuit/Open
P0A82	Hybrid Battery Pack Cooling Fan 1 Performance/Stuck Off
P0A83	Hybrid Battery Pack Cooling Fan 1 Stuck On
P0A84	Hybrid Battery Pack Cooling Fan 1 Control Circuit Low
P0A85	Hybrid Battery Pack Cooling Fan 1 Control Circuit High
P0A86	14 Volt Power Module Current Sensor Circuit
P0A87	14 Volt Power Module Current Sensor Circuit Range/Performance
P0A88	14 Volt Power Module Current Sensor Circuit Low
P0A89	14 Volt Power Module Current Sensor Circuit High
P0A8A	14 Volt Power Module Current Sensor Circuit Intermittent
P0A8B	14 Volt Power Module System Voltage
P0A8C	14 Volt Power Module System Voltage Unstable
P0A8D	14 Volt Power Module System Voltage Low
P0A8E	14 Volt Power Module System Voltage High
P0A8F	14 Volt Power Module System Performance
P0A90	Drive Motor "A" Performance
P0A91	Drive Motor "B" Performance
P0A92	Hybrid Generator Performance
P0A93	Inverter "A" Cooling System Performance
P0A94	DC/DC Converter Performance
P0A95	High Voltage Fuse
P0A96	Hybrid Battery Pack Cooling Fan 2 Control Circuit/Open
P0A97	Hybrid Battery Pack Cooling Fan 2 Performance/Stuck Off
P0A98	Hybrid Battery Pack Cooling Fan 2 Stuck On
P0A99	Hybrid Battery Pack Cooling Fan 2 Control Circuit Low
P0A9A	Hybrid Battery Pack Cooling Fan 2 Control Circuit High
P0A9B	Hybrid Battery Temperature Sensor "A" Circuit
P0A9C	Hybrid Battery Temperature Sensor "A" Range/Performance
P0A9D	Hybrid Battery Temperature Sensor "A" Circuit Low
P0A9E	Hybrid Battery Temperature Sensor "A" Circuit High
P0A9F	Hybrid Battery Temperature Sensor "A" Circuit Intermittent/Erratic
P0AA0	Hybrid Battery Positive Contactor Circuit
P0AA1	Hybrid Battery Positive Contactor Circuit Stuck Closed
P0AA2	Hybrid Battery Positive Contactor Circuit Stuck Open
P0AA3	Hybrid Battery Negative Contactor Circuit
P0AA4	Hybrid Battery Negative Contactor Circuit Stuck Closed
P0AA5	Hybrid Battery Negative Contactor Circuit Stuck Open
P0AA6	Hybrid Battery Voltage System Isolation Fault
P0AA7	Hybrid Battery Voltage Isolation Sensor Circuit
P0AA8	Hybrid Battery Voltage Isolation Sensor Circuit Range/Performance
P0AA9	Hybrid Battery Voltage Isolation Sensor Circuit Low
P0AAA	Hybrid Battery Voltage Isolation Sensor Circuit High
P0AAB	Hybrid Battery Voltage Isolation Sensor Circuit Intermittent/Erratic
P0AAC	Hybrid Battery Pack Air Temperature Sensor "A" Circuit
P0AAD	Hybrid Battery Pack Air Temperature Sensor "A" Circuit Range/Performance
P0AAE	Hybrid Battery Pack Air Temperature Sensor "A" Circuit Low
P0AAF	Hybrid Battery Pack Air Temperature Sensor "A" Circuit High
P0AB0	Hybrid Battery Pack Air Temperature Sensor "A" Circuit Intermittent/Erratic
P0AB1	Hybrid Battery Pack Air Temperature Sensor "B" Circuit
P0AB2	Hybrid Battery Pack Air Temperature Sensor "B" Circuit

	Range/Performance
P0AB3	Hybrid Battery Pack Air Temperature Sensor "B" Circuit Low
P0AB4	Hybrid Battery Pack Air Temperature Sensor "B" Circuit High
P0AB5	Hybrid Battery Pack Air Temperature Sensor "B" Circuit Intermittent/Erratic
P0AB6	Engine Mount "B" Control Circuit/Open
P0AB7	Engine Mount "B" Control Circuit Low
P0AB8	Engine Mount "B" Control Circuit High
P0AB9	Hybrid System Performance
P0ABA	Hybrid Battery Pack Voltage Sense "A" Circuit
P0ABB	Hybrid Battery Pack Voltage Sense "A" Circuit Range/Performance
P0ABC	Hybrid Battery Pack Voltage Sense "A" Circuit Low
P0ABD	Hybrid Battery Pack Voltage Sense "A" Circuit High
P0ABE	Hybrid Battery Pack Voltage Sense "A" Circuit Intermittent/Erratic
P0ABF	Hybrid Battery Pack Current Sensor "A" Circuit
P0AC0	Hybrid Battery Pack Current Sensor "A" Circuit Range/Performance
P0AC1	Hybrid Battery Pack Current Sensor "A" Circuit Low
P0AC2	Hybrid Battery Pack Current Sensor "A" Circuit High
P0AC3	Hybrid Battery Pack Current Sensor "A" Circuit Intermittent/Erratic
P0AC4	Hybrid Powertrain Control Module Requested MIL Illumination
P0AC5	Hybrid Battery Temperature Sensor "B" Circuit
P0AC6	Hybrid Battery Temperature Sensor "B" Range/Performance
P0AC7	Hybrid Battery Temperature Sensor "B" Circuit Low
P0AC8	Hybrid Battery Temperature Sensor "B" Circuit High
P0AC9	Hybrid Battery Temperature Sensor "B" Circuit Intermittent/Erratic
P0ACA	Hybrid Battery Temperature Sensor "C" Circuit
P0ACB	Hybrid Battery Temperature Sensor "C" Range/Performance
P0ACC	Hybrid Battery Temperature Sensor "C" Circuit Low
P0ACD	Hybrid Battery Temperature Sensor "C" Circuit High
P0ACE	Hybrid Battery Temperature Sensor "C" Circuit Intermittent/Erratic
P0ACF	Hybrid Battery Pack Cooling Fan 3 Control Circuit/Open
P0AD0	Hybrid Battery Pack Cooling Fan 3 Performance/Stuck Off
P0AD1	Hybrid Battery Pack Cooling Fan 3 Stuck On
P0AD2	Hybrid Battery Pack Cooling Fan 3 Control Circuit Low
P0AD3	Hybrid Battery Pack Cooling Fan 3 Control Circuit High
P0AD4	Hybrid Battery Pack Air Flow System Insufficient Air Flow
P0AD5	Hybrid Battery Pack Air Flow Valve "A" Control Circuit/Open
P0AD6	Hybrid Battery Pack Air Flow Valve "A" Control Circuit Range/Performance
P0AD7	Hybrid Battery Pack Air Flow Valve "A" Control Circuit Low
P0AD8	Hybrid Battery Pack Air Flow Valve "A" Control Circuit High
P0AD9	Hybrid Battery Positive Contactor Control Circuit/Open
P0ADA	Hybrid Battery Positive Contactor Control Circuit Range/Performance
P0ADB	Hybrid Battery Positive Contactor Control Circuit Low
P0ADC	Hybrid Battery Positive Contactor Control Circuit High
P0ADD	Hybrid Battery Negative Contactor Control Circuit/Open
P0ADE	Hybrid Battery Negative Contactor Control Circuit Range/Performance
P0ADF	Hybrid Battery Negative Contactor Control Circuit Low
P0AE0	Hybrid Battery Negative Contactor Control Circuit High
P0AE1	Hybrid Battery Precharge Contactor Circuit
P0AE2	Hybrid Battery Precharge Contactor Circuit Stuck Closed
P0AE3	Hybrid Battery Precharge Contactor Circuit Stuck Open

P0AE4	Hybrid Battery Precharge Contactor Control Circuit
P0AE5	Hybrid Battery Precharge Contactor Control Circuit Range/Performance
P0AE6	Hybrid Battery Precharge Contactor Control Circuit Low
P0AE7	Hybrid Battery Precharge Contactor Control Circuit High
P0AE8	Hybrid Battery Temperature Sensor "D" Circuit
P0AE9	Hybrid Battery Temperature Sensor "D" Range/Performance
P0AEA	Hybrid Battery Temperature Sensor "D" Circuit Low
P0AEB	Hybrid Battery Temperature Sensor "D" Circuit High
P0AEC	Hybrid Battery Temperature Sensor "D" Circuit Intermittent/Erratic
P0AED	Drive Motor Inverter Temperature Sensor "A" Circuit
P0AEE	Drive Motor Inverter Temperature Sensor "A" Circuit Range/Performance
P0AEF	Drive Motor Inverter Temperature Sensor "A" Circuit Low
P0AF0	Drive Motor Inverter Temperature Sensor "A" Circuit High
P0AF1	Drive Motor Inverter Temperature Sensor "A" Circuit Intermittent/Erratic
P0AF2	Drive Motor Inverter Temperature Sensor "B" Circuit
P0AF3	Drive Motor Inverter Temperature Sensor "B" Circuit Range/Performance
P0AF4	Drive Motor Inverter Temperature Sensor "B" Circuit Low
P0AF5	Drive Motor Inverter Temperature Sensor "B" Circuit High
P0AF6	Drive Motor Inverter Temperature Sensor "B" Circuit Intermittent/Erratic
P0AF7	14 Volt Power Module Internal Temperature Too High
P0AF8	Hybrid Battery System Voltage
P0AF9	Hybrid Battery System Voltage Unstable
P0AFA	Hybrid Battery System Voltage Low
P0AFB	Hybrid Battery System Voltage High
P0AFC	Hybrid Battery Pack Sensor Module
P0AFD	Hybrid Battery Pack Temperature Too Low
P0AFE	Hybrid Battery System Voltage Too Low for Voltage Step Up Conversion
P0AFF	System Voltage Too Low for Voltage Step Down Conversion

TABLE D12 - P0BXX HYBRID PROPULSION

DTC Number	DTC Naming	Location	Foot Note
P0B00	Auxiliary Transmission Fluid Pump Motor Phase U Current		
P0B01	Auxiliary Transmission Fluid Pump Motor Phase U Current Low		
P0B02	Auxiliary Transmission Fluid Pump Motor Phase U Current High		
P0B03	Auxiliary Transmission Fluid Pump Motor Phase V Current		
P0B04	Auxiliary Transmission Fluid Pump Motor Phase V Current Low		
P0B05	Auxiliary Transmission Fluid Pump Motor Phase V Current High		
P0B06	Auxiliary Transmission Fluid Pump Motor Phase W Current		
P0B07	Auxiliary Transmission Fluid Pump Motor Phase W Current Low		
P0B08	Auxiliary Transmission Fluid Pump Motor Phase W Current High		
P0B09	Auxiliary Transmission Fluid Pump Motor Supply Voltage Circuit/Open		
P0B0A	Auxiliary Transmission Fluid Pump Motor Supply Voltage Circuit Low		
P0B0B	Auxiliary Transmission Fluid Pump Motor Supply Voltage Circuit High		
P0B0C	Auxiliary Transmission Fluid Pump Hydraulic Leakage		
P0B0D	Auxiliary Transmission Fluid Pump Motor Control Module		

DTC Number	DTC Naming	Location	Foot Note
P0B0E	Hybrid Battery Pack Current Sensor "B" Circuit		
P0B0F	Hybrid Battery Pack Current Sensor "B" Circuit Range/Performance		
P0B10	Hybrid Battery Pack Current Sensor "B" Circuit Low		
P0B11	Hybrid Battery Pack Current Sensor "B" Circuit High		
P0B12	Hybrid Battery Pack Current Sensor "B" Circuit Intermittent/Erratic		
P0B13	Hybrid Battery Pack Current Sensor "A"/"B" Correlation		
P0B14	Hybrid Battery Pack Voltage Sense "B" Circuit		
P0B15	Hybrid Battery Pack Voltage Sense "B" Circuit Range/Performance		
P0B16	Hybrid Battery Pack Voltage Sense "B" Circuit Low		
P0B17	Hybrid Battery Pack Voltage Sense "B" Circuit High		
P0B18	Hybrid Battery Pack Voltage Sense "B" Circuit Intermittent/Erratic		
P0B19	Hybrid Battery Pack Voltage Sense "C" Circuit		
P0B1A	Hybrid Battery Pack Voltage Sense "C" Circuit Range/Performance		
P0B1B	Hybrid Battery Pack Voltage Sense "C" Circuit Low		
P0B1C	Hybrid Battery Pack Voltage Sense "C" Circuit High		
P0B1D	Hybrid Battery Pack Voltage Sense "C" Circuit Intermittent/Erratic		
P0B1E	Hybrid Battery Pack Voltage Sense "D" Circuit		
P0B1F	Hybrid Battery Pack Voltage Sense "D" Circuit Range/Performance		
P0B20	Hybrid Battery Pack Voltage Sense "D" Circuit Low		
P0B21	Hybrid Battery Pack Voltage Sense "D" Circuit High		
P0B22	Hybrid Battery Pack Voltage Sense "D" Circuit Intermittent/Erratic		
P0B23	Hybrid Battery "A" Voltage		
P0B24	Hybrid Battery "A" Voltage Unstable		
P0B25	Hybrid Battery "A" Voltage Low		
P0B26	Hybrid Battery "A" Voltage High		
P0B27	Hybrid Battery "B" Voltage		
P0B28	Hybrid Battery "B" Voltage Unstable		
P0B29	Hybrid Battery "B" Voltage Low		
P0B2A	Hybrid Battery "B" Voltage High		
P0B2B	Hybrid Battery "C" Voltage		
P0B2C	Hybrid Battery "C" Voltage Unstable		
P0B2D	Hybrid Battery "C" Voltage Low		
P0B2E	Hybrid Battery "C" Voltage High		
P0B2F	Hybrid Battery "D" Voltage		
P0B30	Hybrid Battery "D" Voltage Unstable		
P0B31	Hybrid Battery "D" Voltage Low		
P0B32	Hybrid Battery "D" Voltage High		
P0B33	High Voltage Service Disconnect Circuit		
P0B34	High Voltage Service Disconnect Circuit Performance		
P0B35	High Voltage Service Disconnect Circuit Low		
P0B36	High Voltage Service Disconnect Circuit High		
P0B37	High Voltage Service Disconnect Open		
P0B38	Motor Electronics Coolant Pump "B" Control Circuit/Open		
P0B39	Motor Electronics Coolant Pump "B" Control Circuit Low		
P0B3A	Motor Electronics Coolant Pump "B" Control Circuit High		
P0B3B	Hybrid Battery Voltage Sense "A" Circuit		
P0B3C	Hybrid Battery Voltage Sense "A" Circuit Range/Performance		
P0B3D	Hybrid Battery Voltage Sense "A" Circuit Low		
P0B3E	Hybrid Battery Voltage Sense "A" Circuit High		
P0B3F	Hybrid Battery Voltage Sense "A" Circuit Intermittent/Erratic		
P0B40	Hybrid Battery Voltage Sense "B" Circuit		
P0B41	Hybrid Battery Voltage Sense "B" Circuit Range/Performance		

DTC Number	DTC Naming	Location	Foot Note
P0B42	Hybrid Battery Voltage Sense "B" Circuit Low		
P0B43	Hybrid Battery Voltage Sense "B" Circuit High		
P0B44	Hybrid Battery Voltage Sense "B" Circuit Intermittent/Erratic		
P0B45	Hybrid Battery Voltage Sense "C" Circuit		
P0B46	Hybrid Battery Voltage Sense "C" Circuit Range/Performance		
P0B47	Hybrid Battery Voltage Sense "C" Circuit Low		
P0B48	Hybrid Battery Voltage Sense "C" Circuit High		
P0B49	Hybrid Battery Voltage Sense "C" Circuit Intermittent/Erratic		
P0B4A	Hybrid Battery Voltage Sense "D" Circuit		
P0B4B	Hybrid Battery Voltage Sense "D" Circuit Range/Performance		
P0B4C	Hybrid Battery Voltage Sense "D" Circuit Low		
P0B4D	Hybrid Battery Voltage Sense "D" Circuit High		
P0B4E	Hybrid Battery Voltage Sense "D" Circuit Intermittent/Erratic		
P0B4F	Hybrid Battery Voltage Sense "E" Circuit		
P0B50	Hybrid Battery Voltage Sense "E" Circuit Range/Performance		
P0B51	Hybrid Battery Voltage Sense "E" Circuit Low		
P0B52	Hybrid Battery Voltage Sense "E" Circuit High		
P0B53	Hybrid Battery Voltage Sense "E" Circuit Intermittent/Erratic		
P0B54	Hybrid Battery Voltage Sense "F" Circuit		
P0B55	Hybrid Battery Voltage Sense "F" Circuit Range/Performance		
P0B56	Hybrid Battery Voltage Sense "F" Circuit Low		
P0B57	Hybrid Battery Voltage Sense "F" Circuit High		
P0B58	Hybrid Battery Voltage Sense "F" Circuit Intermittent/Erratic		
P0B59	Hybrid Battery Voltage Sense "G" Circuit		
P0B5A	Hybrid Battery Voltage Sense "G" Circuit Range/Performance		
P0B5B	Hybrid Battery Voltage Sense "G" Circuit Low		
P0B5C	Hybrid Battery Voltage Sense "G" Circuit High		
P0B5D	Hybrid Battery Voltage Sense "G" Circuit Intermittent/Erratic		
P0B5E	Hybrid Battery Voltage Sense "H" Circuit		
P0B5F	Hybrid Battery Voltage Sense "H" Circuit Range/Performance		
P0B60	Hybrid Battery Voltage Sense "H" Circuit Low		
P0B61	Hybrid Battery Voltage Sense "H" Circuit High		
P0B62	Hybrid Battery Voltage Sense "H" Circuit Intermittent/Erratic		
P0B63	Hybrid Battery Voltage Sense "I" Circuit		
P0B64	Hybrid Battery Voltage Sense "I" Circuit Range/Performance		
P0B65	Hybrid Battery Voltage Sense "I" Circuit Low		
P0B66	Hybrid Battery Voltage Sense "I" Circuit High		
P0B67	Hybrid Battery Voltage Sense "I" Circuit Intermittent/Erratic		
P0B68	Hybrid Battery Voltage Sense "J" Circuit		
P0B69	Hybrid Battery Voltage Sense "J" Circuit Range/Performance		
P0B6A	Hybrid Battery Voltage Sense "J" Circuit Low		
P0B6B	Hybrid Battery Voltage Sense "J" Circuit High		
P0B6C	Hybrid Battery Voltage Sense "J" Circuit Intermittent/Erratic		
P0B6D	Hybrid Battery Voltage Sense "K" Circuit		
P0B6E	Hybrid Battery Voltage Sense "K" Circuit Range/Performance		
P0B6F	Hybrid Battery Voltage Sense "K" Circuit Low		
P0B70	Hybrid Battery Voltage Sense "K" Circuit High		
P0B71	Hybrid Battery Voltage Sense "K" Circuit Intermittent/Erratic		
P0B72	Hybrid Battery Voltage Sense "L" Circuit		
P0B73	Hybrid Battery Voltage Sense "L" Circuit Range/Performance		
P0B74	Hybrid Battery Voltage Sense "L" Circuit Low		
P0B75	Hybrid Battery Voltage Sense "L" Circuit High		

DTC Number	DTC Naming	Location	Foot Note
P0B76	Hybrid Battery Voltage Sense "L" Circuit Intermittent/Erratic		
P0B77	Hybrid Battery Voltage Sense "M" Circuit		
P0B78	Hybrid Battery Voltage Sense "M" Circuit Range/Performance		
P0B79	Hybrid Battery Voltage Sense "M" Circuit Low		
P0B7A	Hybrid Battery Voltage Sense "M" Circuit High		
P0B7B	Hybrid Battery Voltage Sense "M" Circuit Intermittent/Erratic		
P0B7C	Hybrid Battery Voltage Sense "N" Circuit		
P0B7D	Hybrid Battery Voltage Sense "N" Circuit Range/Performance		
P0B7E	Hybrid Battery Voltage Sense "N" Circuit Low		
P0B7F	Hybrid Battery Voltage Sense "N" Circuit High		
P0B80	Hybrid Battery Voltage Sense "N" Circuit Intermittent/Erratic		
P0B81	Hybrid Battery Voltage Sense "O" Circuit		
P0B82	Hybrid Battery Voltage Sense "O" Circuit Range/Performance		
P0B83	Hybrid Battery Voltage Sense "O" Circuit Low		
P0B84	Hybrid Battery Voltage Sense "O" Circuit High		
P0B85	Hybrid Battery Voltage Sense "O" Circuit Intermittent/Erratic		
P0B86	Hybrid Battery Voltage Sense "P" Circuit		
P0B87	Hybrid Battery Voltage Sense "P" Circuit Range/Performance		
P0B88	Hybrid Battery Voltage Sense "P" Circuit Low		
P0B89	Hybrid Battery Voltage Sense "P" Circuit High		
P0B8A	Hybrid Battery Voltage Sense "P" Circuit Intermittent/Erratic		
P0B8B	Hybrid Battery Voltage Sense "Q" Circuit		
P0B8C	Hybrid Battery Voltage Sense "Q" Circuit Range/Performance		
P0B8D	Hybrid Battery Voltage Sense "Q" Circuit Low		
P0B8E	Hybrid Battery Voltage Sense "Q" Circuit High		
P0B8F	Hybrid Battery Voltage Sense "Q" Circuit Intermittent/Erratic		
P0B90	Hybrid Battery Voltage Sense "R" Circuit		
P0B91	Hybrid Battery Voltage Sense "R" Circuit Range/Performance		
P0B92	Hybrid Battery Voltage Sense "R" Circuit Low		
P0B93	Hybrid Battery Voltage Sense "R" Circuit High		
P0B94	Hybrid Battery Voltage Sense "R" Circuit Intermittent/Erratic		
P0B95	Hybrid Battery Voltage Sense "S" Circuit		
P0B96	Hybrid Battery Voltage Sense "S" Circuit Range/Performance		
P0B97	Hybrid Battery Voltage Sense "S" Circuit Low		
P0B98	Hybrid Battery Voltage Sense "S" Circuit High		
P0B99	Hybrid Battery Voltage Sense "S" Circuit Intermittent/Erratic		
P0B9A	Hybrid Battery Voltage Sense "T" Circuit		
P0B9B	Hybrid Battery Voltage Sense "T" Circuit Range/Performance		
P0B9C	Hybrid Battery Voltage Sense "T" Circuit Low		
P0B9D	Hybrid Battery Voltage Sense "T" Circuit High		
P0B9E	Hybrid Battery Voltage Sense "T" Circuit Intermittent/Erratic		
P0B9F	Hybrid Battery Voltage Sense "U" Circuit		
P0BA0	Hybrid Battery Voltage Sense "U" Circuit Range/Performance		
P0BA1	Hybrid Battery Voltage Sense "U" Circuit Low		
P0BA2	Hybrid Battery Voltage Sense "U" Circuit High		
P0BA3	Hybrid Battery Voltage Sense "U" Circuit Intermittent/Erratic		
P0BA4	Hybrid Battery Voltage Sense "V" Circuit		
P0BA5	Hybrid Battery Voltage Sense "V" Circuit Range/Performance		
P0BA6	Hybrid Battery Voltage Sense "V" Circuit Low		
P0BA7	Hybrid Battery Voltage Sense "V" Circuit High		
P0BA8	Hybrid Battery Voltage Sense "V" Circuit Intermittent/Erratic		
P0BA9	Hybrid Battery Voltage Sense "W" Circuit		

DTC Number	DTC Naming	Location	Foot Note
P0BAA	Hybrid Battery Voltage Sense "W" Circuit Range/Performance		
P0BAB	Hybrid Battery Voltage Sense "W" Circuit Low		
P0BAC	Hybrid Battery Voltage Sense "W" Circuit High		
P0BAD	Hybrid Battery Voltage Sense "W" Circuit Intermittent/Erratic		
P0BAE	Hybrid Battery Voltage Sense "X" Circuit		
P0BAF	Hybrid Battery Voltage Sense "X" Circuit Range/Performance		
P0BB0	Hybrid Battery Voltage Sense "X" Circuit Low		
P0BB1	Hybrid Battery Voltage Sense "X" Circuit High		
P0BB2	Hybrid Battery Voltage Sense "X" Circuit Intermittent/Erratic		
P0BB3	Hybrid Battery Voltage Sense "Y" Circuit		
P0BB4	Hybrid Battery Voltage Sense "Y" Circuit Range/Performance		
P0BB5	Hybrid Battery Voltage Sense "Y" Circuit Low		
P0BB6	Hybrid Battery Voltage Sense "Y" Circuit High		
P0BB7	Hybrid Battery Voltage Sense "Y" Circuit Intermittent/Erratic		
P0BB8	Hybrid Battery Voltage Sense "Z" Circuit		
P0BB9	Hybrid Battery Voltage Sense "Z" Circuit Range/Performance		
P0BBA	Hybrid Battery Voltage Sense "Z" Circuit Low		
P0BBB	Hybrid Battery Voltage Sense "Z" Circuit High		
P0BBC	Hybrid Battery Voltage Sense "Z" Circuit Intermittent/Erratic		
P0BBD	Hybrid Battery Pack Voltage Variation Exceeded Limit		
P0BBE	Hybrid Battery Pack Voltage Variation		
P0BBF	Hybrid Battery Pack Cooling Fan Supply Voltage Circuit/Open		
P0BC0	Hybrid Battery Pack Cooling Fan Supply Voltage Circuit Low		
P0BC1	Hybrid Battery Pack Cooling Fan Supply Voltage Circuit High		
P0BC2	Hybrid Battery Temperature Sensor "E" Circuit		
P0BC3	Hybrid Battery Temperature Sensor "E" Range/Performance		
P0BC4	Hybrid Battery Temperature Sensor "E" Circuit Low		
P0BC5	Hybrid Battery Temperature Sensor "E" Circuit High		
P0BC6	Hybrid Battery Temperature Sensor "E" Circuit Intermittent/Erratic		
P0BC7	Hybrid Battery Pack Cooling Fan Sense Circuit/Open		
P0BC8	Hybrid Battery Pack Cooling Fan Sense Range/Performance		
P0BC9	Hybrid Battery Pack Cooling Fan Sense Circuit Low		
P0BCA	Hybrid Battery Pack Cooling Fan Sense Circuit High		
P0BCB	Hybrid Battery Pack Cooling Fan Sense Circuit Intermittent/Erratic		
P0BCC	Generator Inverter Temperature Sensor Circuit		
P0BCD	Generator Inverter Temperature Sensor Circuit Range/Performance		
P0BCE	Generator Inverter Temperature Sensor Circuit Low		
P0BCF	Generator Inverter Temperature Sensor Circuit High		
P0BD0	Generator Inverter Temperature Sensor Circuit Intermittent/Erratic		
P0BD1	Drive Motor Inverter Temperature Sensor "C" Circuit		
P0BD2	Drive Motor Inverter Temperature Sensor "C" Circuit Range/Performance		
P0BD3	Drive Motor Inverter Temperature Sensor "C" Circuit Low		
P0BD4	Drive Motor Inverter Temperature Sensor "C" Circuit High		
P0BD5	Drive Motor Inverter Temperature Sensor "C" Circuit Intermittent/Erratic		
P0BD6	Drive Motor Inverter Temperature Sensor "D" Circuit		
P0BD7	Drive Motor Inverter Temperature Sensor "D" Circuit Range/Performance		
P0BD8	Drive Motor Inverter Temperature Sensor "D" Circuit Low		
P0BD9	Drive Motor Inverter Temperature Sensor "D" Circuit High		
P0BDA	Drive Motor Inverter Temperature Sensor "D" Circuit Intermittent/Erratic		

DTC Number	DTC Naming	Location	Foot Note
P0BDB	Drive Motor Inverter Temperature Sensor "E" Circuit		
P0BDC	Drive Motor Inverter Temperature Sensor "E" Circuit Range/Performance		
P0BDD	Drive Motor Inverter Temperature Sensor "E" Circuit Low		
P0BDE	Drive Motor Inverter Temperature Sensor "E" Circuit High		
P0BDF	Drive Motor Inverter Temperature Sensor "E" Circuit Intermittent/Erratic		
P0BE0	Drive Motor Inverter Temperature Sensor "F" Circuit		
P0BE1	Drive Motor Inverter Temperature Sensor "F" Circuit Range/Performance		
P0BE2	Drive Motor Inverter Temperature Sensor "F" Circuit Low		
P0BE3	Drive Motor Inverter Temperature Sensor "F" Circuit High		
P0BE4	Drive Motor Inverter Temperature Sensor "F" Circuit Intermittent/Erratic		
P0BE5	Drive Motor "A" Phase U Current Sensor Circuit		
P0BE6	Drive Motor "A" Phase U Current Sensor Circuit Range/Performance		
P0BE7	Drive Motor "A" Phase U Current Sensor Circuit Low		
P0BE8	Drive Motor "A" Phase U Current Sensor Circuit High		
P0BE9	Drive Motor "A" Phase V Current Sensor Circuit		
P0BEA	Drive Motor "A" Phase V Current Sensor Circuit Range/Performance		
P0BEB	Drive Motor "A" Phase V Current Sensor Circuit Low		
P0BEC	Drive Motor "A" Phase V Current Sensor Circuit High		
P0BED	Drive Motor "A" Phase W Current Sensor Circuit		
P0BEE	Drive Motor "A" Phase W Current Sensor Circuit Range/Performance		
P0BEF	Drive Motor "A" Phase W Current Sensor Circuit Low		
P0BF0	Drive Motor "A" Phase W Current Sensor Circuit High		
P0BF1	Drive Motor "B" Phase U Current Sensor Circuit		
P0BF2	Drive Motor "B" Phase U Current Sensor Circuit Range/Performance		
P0BF3	Drive Motor "B" Phase U Current Sensor Circuit Low		
P0BF4	Drive Motor "B" Phase U Current Sensor Circuit High		
P0BF5	Drive Motor "B" Phase V Current Sensor Circuit		
P0BF6	Drive Motor "B" Phase V Current Sensor Circuit Range/Performance		
P0BF7	Drive Motor "B" Phase V Current Sensor Circuit Low		
P0BF8	Drive Motor "B" Phase V Current Sensor Circuit High		
P0BF9	Drive Motor "B" Phase W Current Sensor Circuit		
P0BFA	Drive Motor "B" Phase W Current Sensor Circuit Range/Performance		
P0BFB	Drive Motor "B" Phase W Current Sensor Circuit Low		
P0BFC	Drive Motor "B" Phase W Current Sensor Circuit High		
P0BFD	Drive Motor "A" Phase U-V-W Current Sensor Correlation		
P0BFE	Drive Motor "B" Phase U-V-W Current Sensor Correlation		
P0BFF	Drive Motor "A" Current		

TABLE D13 - P0CXX HYBRID PROPULSION

DTC Number	DTC Naming	Location	Foot Note
P0C00	Drive Motor "A" Current Low		
P0C01	Drive Motor "A" Current High		
P0C02	Drive Motor "B" Current		
P0C03	Drive Motor "B" Current Low		
P0C04	Drive Motor "B" Current High		
P0C05	Drive Motor "A" Phase U-V-W Circuit/Open		
P0C06	Drive Motor "A" Phase U-V-W Circuit Low		
P0C07	Drive Motor "A" Phase U-V-W Circuit High		
P0C08	Drive Motor "B" Phase U-V-W Circuit/Open		
P0C09	Drive Motor "B" Phase U-V-W Circuit Low		
P0C0A	Drive Motor "B" Phase U-V-W Circuit High		
P0C0B	Drive Motor "A" Inverter Power Supply Circuit/Open		
P0C0C	Drive Motor "A" Inverter Power Supply Circuit Low		
P0C0D	Drive Motor "A" Inverter Power Supply Circuit High		
P0C0E	Drive Motor "B" Inverter Power Supply Circuit/Open		
P0C0F	Drive Motor "B" Inverter Power Supply Circuit Low		
P0C10	Drive Motor "B" Inverter Power Supply Circuit High		
P0C11	Drive Motor "A" Inverter Phase U Over Temperature		
P0C12	Drive Motor "A" Inverter Phase V Over Temperature		
P0C13	Drive Motor "A" Inverter Phase W Over Temperature		
P0C14	Drive Motor "B" Inverter Phase U Over Temperature		
P0C15	Drive Motor "B" Inverter Phase V Over Temperature		
P0C16	Drive Motor "B" Inverter Phase W Over Temperature		
P0C17	Drive Motor "A" Position Sensor Not Learned		
P0C18	Drive Motor "B" Position Sensor Not Learned		
P0C19	Drive Motor "A" Torque Delivered Performance		
P0C1A	Drive Motor "B" Torque Delivered Performance		
P0C1B	Auxiliary Transmission Fluid Pump Control Module Internal Temperature Too High		
P0C1C	Auxiliary Transmission Fluid Pump Control Module Internal Temperature Sensor Circuit		
P0C1D	Auxiliary Transmission Fluid Pump Control Module Internal Temperature Sensor Circuit Range/Performance		
P0C1E	Auxiliary Transmission Fluid Pump Control Module Internal Temperature Sensor Circuit Low		
P0C1F	Auxiliary Transmission Fluid Pump Control Module Internal Temperature Sensor Circuit High		
P0C20	Auxiliary Transmission Fluid Pump Phase U-V-W Circuit/Open		
P0C21	Auxiliary Transmission Fluid Pump Phase U-V-W Circuit Low		
P0C22	Auxiliary Transmission Fluid Pump Phase U-V-W Circuit High		
P0C23	Auxiliary Transmission Fluid Pump Control Module Circuit/Open		
P0C24	Auxiliary Transmission Fluid Pump Control Module Circuit Low		
P0C25	Auxiliary Transmission Fluid Pump Control Module Circuit High		
P0C26	Auxiliary Transmission Fluid Pump Motor Current		
P0C27	Auxiliary Transmission Fluid Pump Motor Current Low		
P0C28	Auxiliary Transmission Fluid Pump Motor Current High		
P0C29	Auxiliary Transmission Fluid Pump Driver Circuit Performance		
P0C2A	Auxiliary Transmission Fluid Pump Motor Stalled		
P0C2B	Auxiliary Transmission Fluid Pump Control Module Feedback Signal		
P0C2C	Auxiliary Transmission Fluid Pump Control Module Feedback		

DTC Number	DTC Naming	Location	Foot Note
	Signal Range/Performance		
P0C2D	Auxiliary Transmission Fluid Pump Control Module Feedback Signal Low		
P0C2E	Auxiliary Transmission Fluid Pump Control Module Feedback Signal High		
P0C2F	Internal Control Module Drive Motor/Generator - Engine Speed Sensor Performance		
P0C30	Hybrid Battery Pack State of Charge High		
P0C31	Inverter "B" Cooling System Performance		
P0C32	Hybrid Battery Cooling System Performance		
P0C33	Hybrid Battery Temperature Sensor "F" Circuit		
P0C34	Hybrid Battery Temperature Sensor "F" Circuit Range/Performance		
P0C35	Hybrid Battery Temperature Sensor "F" Circuit Low		
P0C36	Hybrid Battery Temperature Sensor "F" Circuit High		
P0C37	Hybrid Battery Temperature Sensor "F" Circuit Intermittent/Erratic		
P0C38	DC/DC Converter Temperature Sensor "A" Circuit		
P0C39	DC/DC Converter Temperature Sensor "A" Range/Performance		
P0C3A	DC/DC Converter Temperature Sensor "A" Low		
P0C3B	DC/DC Converter Temperature Sensor "A" High		
P0C3C	DC/DC Converter Temperature Sensor "A" Intermittent/Erratic		
P0C3D	DC/DC Converter Temperature Sensor "B" Circuit		
P0C3E	DC/DC Converter Temperature Sensor "B" Range/Performance		
P0C3F	DC/DC Converter Temperature Sensor "B" Low		
P0C40	DC/DC Converter Temperature Sensor "B" High		
P0C41	DC/DC Converter Temperature Sensor "B" Intermittent/Erratic		
P0C42	Hybrid Battery Pack Coolant Temperature Sensor Circuit		
P0C43	Hybrid Battery Pack Coolant Temperature Sensor Circuit Range/Performance		
P0C44	Hybrid Battery Pack Coolant Temperature Sensor Circuit Low		
P0C45	Hybrid Battery Pack Coolant Temperature Sensor Circuit High		
P0C46	Hybrid Battery Pack Coolant Temperature Sensor Circuit Intermittent/Erratic		
P0C47	Hybrid Battery Pack Coolant Pump Control Circuit/Open		
P0C48	Hybrid Battery Pack Coolant Pump Control Circuit Low		
P0C49	Hybrid Battery Pack Coolant Pump Control Circuit High		
P0C4A	Hybrid Battery Pack Coolant Pump Control Performance		
P0C4B	Hybrid Battery Pack Coolant Pump Supply Voltage Circuit/Open		
P0C4C	Hybrid Battery Pack Coolant Pump Supply Voltage Circuit Low		
P0C4D	Hybrid Battery Pack Coolant Pump Supply Voltage Circuit High		
P0C4E	Drive Motor "A" Position Exceeded Learning Limit		
P0C4F	Drive Motor "B" Position Exceeded Learning Limit		
P0C50	Drive Motor "A" Position Sensor Circuit "A"		
P0C51	Drive Motor "A" Position Sensor Circuit "A" Range/Performance		
P0C52	Drive Motor "A" Position Sensor Circuit "A" Low		
P0C53	Drive Motor "A" Position Sensor Circuit "A" High		
P0C54	Drive Motor "A" Position Sensor Circuit "A" Intermittent/Erratic		
P0C55	Drive Motor "B" Position Sensor Circuit "A"		
P0C56	Drive Motor "B" Position Sensor Circuit "A" Range/Performance		
P0C57	Drive Motor "B" Position Sensor Circuit "A" Low		
P0C58	Drive Motor "B" Position Sensor Circuit "A" High		
P0C59	Drive Motor "B" Position Sensor Circuit "A" Intermittent/Erratic		
P0C5A	Drive Motor "A" Position Sensor Circuit "B"		
P0C5B	Drive Motor "A" Position Sensor Circuit "B" Range/Performance		

DTC Number	DTC Naming	Location	Foot Note
P0C5C	Drive Motor "A" Position Sensor Circuit "B" Low		
P0C5D	Drive Motor "A" Position Sensor Circuit "B" High		
P0C5E	Drive Motor "A" Position Sensor Circuit "B" Intermittent/Erratic		
P0C5F	Drive Motor "B" Position Sensor Circuit "B"		
P0C60	Drive Motor "B" Position Sensor Circuit "B" Range/Performance		
P0C61	Drive Motor "B" Position Sensor Circuit "B" Low		
P0C62	Drive Motor "B" Position Sensor Circuit "B" High		
P0C63	Drive Motor "B" Position Sensor Circuit "B" Intermittent/Erratic		
P0C64	Generator Position Sensor Circuit "A"		
P0C65	Generator Position Sensor Circuit "A" Range/Performance		
P0C66	Generator Position Sensor Circuit "A" Low		
P0C67	Generator Position Sensor Circuit "A" High		
P0C68	Generator Position Sensor Circuit "A" Intermittent/Erratic		
P0C69	Generator Position Sensor Circuit "B"		
P0C6A	Generator Position Sensor Circuit "B" Range/Performance		
P0C6B	Generator Position Sensor Circuit "B" Low		
P0C6C	Generator Position Sensor Circuit "B" High		
P0C6D	Generator Position Sensor Circuit "B" Intermittent/Erratic		
P0C6E	Hybrid Battery Temperature Sensor "A"/"B" Correlation		
P0C6F	Hybrid Battery Temperature Sensor "B"/"C" Correlation		
P0C70	Hybrid Battery Temperature Sensor "C"/"D" Correlation		
P0C71	Hybrid Battery Temperature Sensor "D"/"E" Correlation		
P0C72	Hybrid Battery Temperature Sensor "E"/"F" Correlation		
P0C73	Motor Electronics Coolant Pump "A" Control Performance		
P0C74	Motor Electronics Coolant Pump "B" Control Performance		
P0C75	Hybrid Battery System Discharge Time Too Short		
P0C76	Hybrid Battery System Discharge Time Too Long		
P0C77	Hybrid Battery System Precharge Time Too Short		
P0C78	Hybrid Battery System Precharge Time Too Long		
P0C79	Drive Motor "A" Inverter Voltage Too High		
P0C7A	Drive Motor "B" Inverter Voltage Too High		
P0C7B	Generator Inverter Voltage Too High		
P0C7C	Hybrid Battery Temperature Sensor "G" Circuit		
P0C7D	Hybrid Battery Temperature Sensor "G" Range/Performance		
P0C7E	Hybrid Battery Temperature Sensor "G" Circuit Low		
P0C7F	Hybrid Battery Temperature Sensor "G" Circuit High		
P0C80	Hybrid Battery Temperature Sensor "G" Circuit Intermittent/Erratic		
P0C81	Hybrid Battery Temperature Sensor "H" Circuit		
P0C82	Hybrid Battery Temperature Sensor "H" Range/Performance		
P0C83	Hybrid Battery Temperature Sensor "H" Circuit Low		
P0C84	Hybrid Battery Temperature Sensor "H" Circuit High		
P0C85	Hybrid Battery Temperature Sensor "H" Circuit Intermittent/Erratic		
P0C86	Hybrid Battery Temperature Sensor "F"/"G" Correlation		
P0C87	Hybrid Battery Temperature Sensor "G"/"H" Correlation		
P0C88 – P0CFF	ISO/SAE Reserved		

TABLE D14 - P0DXX ISO/SAE RESERVED

DTC Number	DTC Naming	Location	Foot Note
P0D00	ISO/SAE Reserved		

TABLE D15 - P0EXX ISO/SAE RESERVED

DTC Number	DTC Naming	Location	Foot Note
P0E00	ISO/SAE Reserved		

TABLE D16 - P0FXX ISO/SAE RESERVED

DTC Number	DTC Naming	Location	Foot Note
P0F00	ISO/SAE Reserved		

TABLE D17 - P1XXX MANUFACTURER CONTROLLED DTC

DTC Number	DTC Naming	Location	Foot Note
P1000	Manufacturer Controlled DTC		

TABLE D18 - P20XX FUEL AND AIR METERING AND AUXILIARY EMISSION CONTROLS

DTC Number	DTC Naming	Location	Foot Note
P2000	NOx Adsorber Efficiency Below Threshold	Bank 1	
P2001	NOx Adsorber Efficiency Below Threshold	Bank 2	
P2002	Diesel Particulate Filter Efficiency Below Threshold	Bank 1	
P2003	Diesel Particulate Filter Efficiency Below Threshold	Bank 2	
P2004	Intake Manifold Runner Control Stuck Open	Bank 1	c
P2005	Intake Manifold Runner Control Stuck Open	Bank 2	c
P2006	Intake Manifold Runner Control Stuck Closed	Bank 1	c
P2007	Intake Manifold Runner Control Stuck Closed	Bank 2	c
P2008	Intake Manifold Runner Control Circuit/Open	Bank 1	c
P2009	Intake Manifold Runner Control Circuit Low	Bank 1	c
P200A	Intake Manifold Runner Performance	Bank 1	
P200B	Intake Manifold Runner Performance	Bank 2	
P200C	Diesel Particulate Filter Over Temperature	Bank 1	
P200D	Diesel Particulate Filter Over Temperature	Bank 2	
P200E	Catalyst System Over Temperature	Bank 1	
P200F	Catalyst System Over Temperature	Bank 2	
P2010	Intake Manifold Runner Control Circuit High	Bank 1	c
P2011	Intake Manifold Runner Control Circuit/Open	Bank 2	c
P2012	Intake Manifold Runner Control Circuit Low	Bank 2	c
P2013	Intake Manifold Runner Control Circuit High	Bank 2	c
P2014	Intake Manifold Runner Position Sensor/Switch Circuit	Bank 1	c
P2015	Intake Manifold Runner Position Sensor/Switch Circuit Range/Performance	Bank 1	c
P2016	Intake Manifold Runner Position Sensor/Switch Circuit Low	Bank 1	c
P2017	Intake Manifold Runner Position Sensor/Switch Circuit High	Bank 1	c
P2018	Intake Manifold Runner Position Sensor/Switch Circuit Intermittent	Bank 1	c
P2019	Intake Manifold Runner Position Sensor/Switch Circuit	Bank 2	c
P201A	Reductant Injection Valve Circuit Range/Performance	Bank 2 Unit 1	
P201B	ISO/SAE Reserved		

DTC Number	DTC Naming	Location	Foot Note
P201C	ISO/SAE Reserved		
P201D	ISO/SAE Reserved		
P201E	ISO/SAE Reserved		
P201F	ISO/SAE Reserved		
P2020	Intake Manifold Runner Position Sensor/Switch Circuit Range/Performance	Bank 2	c
P2021	Intake Manifold Runner Position Sensor/Switch Circuit Low	Bank 2	c
P2022	Intake Manifold Runner Position Sensor/Switch Circuit High	Bank 2	c
P2023	Intake Manifold Runner Position Sensor/Switch Circuit Intermittent	Bank 2	c
P2024	Evaporative Emissions (EVAP) Fuel Vapor Temperature Sensor Circuit		
P2025	Evaporative Emissions (EVAP) Fuel Vapor Temperature Sensor Performance		
P2026	Evaporative Emissions (EVAP) Fuel Vapor Temperature Sensor Circuit Low Voltage		
P2027	Evaporative Emissions (EVAP) Fuel Vapor Temperature Sensor Circuit High Voltage		
P2028	Evaporative Emissions (EVAP) Fuel Vapor Temperature Sensor Circuit Intermittent		
P2029	Fuel Fired Heater Disabled		
P202A	Reductant Tank Heater Control Circuit/Open		
P202B	Reductant Tank Heater Control Circuit Low		
P202C	Reductant Tank Heater Control Circuit High		
P202D	Reductant Leakage		
P202E	Reductant Injection Valve Circuit Range/Performance	Bank 1 Unit 1	
P202F	Reductant/Regeneration Supply Control Circuit Range/Performance		
P2030	Fuel Fired Heater Performance		
P2031	Exhaust Gas Temperature Sensor Circuit	Bank 1 Sensor 2	
P2032	Exhaust Gas Temperature Sensor Circuit Low	Bank 1 Sensor 2	
P2033	Exhaust Gas Temperature Sensor Circuit High	Bank 1 Sensor 2	
P2034	Exhaust Gas Temperature Sensor Circuit	Bank 2 Sensor 2	
P2035	Exhaust Gas Temperature Sensor Circuit Low	Bank 2 Sensor 2	
P2036	Exhaust Gas Temperature Sensor Circuit High	Bank 2 Sensor 2	
P2037	Reductant Injection Air Pressure Sensor "A" Circuit		
P2038	Reductant Injection Air Pressure Sensor "A" Circuit Range/Performance		
P2039	Reductant Injection Air Pressure Sensor "A" Circuit Low		
P203A	Reductant Level Sensor Circuit		
P203B	Reductant Level Sensor Circuit Range/Performance		
P203C	Reductant Level Sensor Circuit Low		
P203D	Reductant Level Sensor Circuit High		
P203E	Reductant Level Sensor Circuit Intermittent/Erratic		
P203F	Reductant Level Too Low		
P2040	Reductant Injection Air Pressure Sensor "A" Circuit High		
P2041	Reductant Injection Air Pressure Sensor "A" Circuit Intermittent		
P2042	Reductant Temperature Sensor Circuit		
P2043	Reductant Temperature Sensor Circuit Range/Performance		
P2044	Reductant Temperature Sensor Circuit Low		
P2045	Reductant Temperature Sensor Circuit High		
P2046	Reductant Temperature Sensor Circuit Intermittent		
P2047	Reductant Injection Valve Circuit/Open	Bank 1 Unit 1	
P2048	Reductant Injection Valve Circuit Low	Bank 1 Unit 1	
P2049	Reductant Injection Valve Circuit High	Bank 1 Unit 1	
P204A	Reductant Pressure Sensor Circuit		

DTC Number	DTC Naming	Location	Foot Note
P204B	Reductant Pressure Sensor Circuit Range/Performance		
P204C	Reductant Pressure Sensor Circuit Low		
P204D	Reductant Pressure Sensor Circuit High		
P204E	Reductant Pressure Sensor Circuit Intermittent/Erratic		
P204F	Reductant System Performance	Bank 1	
P2050	Reductant Injection Valve Circuit/Open	Bank 2 Unit 1	
P2051	Reductant Injection Valve Circuit Low	Bank 2 Unit 1	
P2052	Reductant Injection Valve Circuit High	Bank 2 Unit 1	
P2053	Reductant Injection Valve Circuit/Open	Bank 1 Unit 2	
P2054	Reductant Injection Valve Circuit Low	Bank 1 Unit 2	
P2055	Reductant Injection Valve Circuit High	Bank 1 Unit 2	
P2056	Reductant Injection Valve Circuit/Open	Bank 2 Unit 2	
P2057	Reductant Injection Valve Circuit Low	Bank 2 Unit 2	
P2058	Reductant Injection Valve Circuit High	Bank 2 Unit 2	
P2059	Reductant Injection Air Pump Control Circuit/Open		
P205A	Reductant Tank Temperature Sensor Circuit		
P205B	Reductant Tank Temperature Sensor Circuit Range/Performance		
P205C	Reductant Tank Temperature Sensor Circuit Low		
P205D	Reductant Tank Temperature Sensor Circuit High		
P205E	Reductant Tank Temperature Sensor Circuit Intermittent/Erratic		
P205F	Reductant System Performance	Bank 2	
P2060	Reductant Injection Air Pump Control Circuit Low		
P2061	Reductant Injection Air Pump Control Circuit High		
P2062	Reductant/Regeneration Supply Control Circuit/Open		
P2063	Reductant/Regeneration Supply Control Circuit Low		
P2064	Reductant/Regeneration Supply Control Circuit High		
P2065	Fuel Level Sensor "B" Circuit		
P2066	Fuel Level Sensor "B" Performance		
P2067	Fuel Level Sensor "B" Circuit Low		
P2068	Fuel Level Sensor "B" Circuit High		
P2069	Fuel Level Sensor "B" Circuit Intermittent		
P206A	Reductant Quality Sensor Circuit		
P206B	Reductant Quality Sensor Circuit Range/Performance		
P206C	Reductant Quality Sensor Circuit Low		
P206D	Reductant Quality Sensor Circuit High		
P206E	Intake Manifold Tuning (IMT) Valve Stuck Open	Bank 2	c
P206F	Intake Manifold Tuning (IMT) Valve Stuck Closed	Bank 2	c
P2070	Intake Manifold Tuning (IMT) Valve Stuck Open	Bank 1	c
P2071	Intake Manifold Tuning (IMT) Valve Stuck Closed	Bank 1	c
P2072	Throttle Actuator Control System - Ice Blockage		
P2073	Manifold Absolute Pressure/Mass Air Flow - Throttle Position Correlation at Idle		
P2074	Manifold Absolute Pressure/Mass Air Flow - Throttle Position Correlation at Higher Load		
P2075	Intake Manifold Tuning (IMT) Valve Position Sensor/Switch Circuit	Bank 1	c
P2076	Intake Manifold Tuning (IMT) Valve Position Sensor/Switch Circuit Range/Performance	Bank 1	c
P2077	Intake Manifold Tuning (IMT) Valve Position Sensor/Switch Circuit Low	Bank 1	c
P2078	Intake Manifold Tuning (IMT) Valve Position Sensor/Switch Circuit High	Bank 1	c
P2079	Intake Manifold Tuning (IMT) Valve Position Sensor/Switch Circuit Intermittent	Bank 1	c

DTC Number	DTC Naming	Location	Foot Note
P207A	Intake Manifold Tuning (IMT) Valve Position Sensor/Switch Circuit	Bank 2	c
P207B	Intake Manifold Tuning (IMT) Valve Position Sensor/Switch Circuit Range/Performance	Bank 2	c
P207C	Intake Manifold Tuning (IMT) Valve Position Sensor/Switch Circuit Low	Bank 2	c
P207D	Intake Manifold Tuning (IMT) Valve Position Sensor/Switch Circuit High	Bank 2	c
P207E	Intake Manifold Tuning (IMT) Valve Position Sensor/Switch Circuit Intermittent	Bank 2	c
P207F	Reductant Quality Performance		
P2080	Exhaust Gas Temperature Sensor Circuit Range/Performance	Bank 1 Sensor 1	
P2081	Exhaust Gas Temperature Sensor Circuit Intermittent	Bank 1 Sensor 1	
P2082	Exhaust Gas Temperature Sensor Circuit Range/Performance	Bank 2 Sensor 1	
P2083	Exhaust Gas Temperature Sensor Circuit Intermittent	Bank 2 Sensor 1	
P2084	Exhaust Gas Temperature Sensor Circuit Range/Performance	Bank 1 Sensor 2	
P2085	Exhaust Gas Temperature Sensor Circuit Intermittent	Bank 1 Sensor 2	
P2086	Exhaust Gas Temperature Sensor Circuit Range/Performance	Bank 2 Sensor 2	
P2087	Exhaust Gas Temperature Sensor Circuit Intermittent	Bank 2 Sensor 2	
P2088	"A" Camshaft Position Actuator Control Circuit Low	Bank 1	a,8
P2089	"A" Camshaft Position Actuator Control Circuit High	Bank 1	a,8
P208A	Reductant Pump Control Circuit/Open		
P208B	Reductant Pump Control Range/Performance		
P208C	Reductant Pump Control Circuit Low		
P208D	Reductant Pump Control Circuit High		
P208E	Reductant Injection Valve Stuck Closed	Bank 1 Unit 1	
P208F	Reductant Injection Valve Stuck Closed	Bank 2 Unit 1	
P2090	"B" Camshaft Position Actuator Control Circuit Low	Bank 1	b,8
P2091	"B" Camshaft Position Actuator Control Circuit High	Bank 1	b,8
P2092	"A" Camshaft Position Actuator Control Circuit Low	Bank 2	a,8
P2093	"A" Camshaft Position Actuator Control Circuit High	Bank 2	a,8
P2094	"B" Camshaft Position Actuator Control Circuit Low	Bank 2	b,8
P2095	"B" Camshaft Position Actuator Control Circuit High	Bank 2	b,8
P2096	Post Catalyst Fuel Trim System Too Lean	Bank 1	
P2097	Post Catalyst Fuel Trim System Too Rich	Bank 1	
P2098	Post Catalyst Fuel Trim System Too Lean	Bank 2	
P2099	Post Catalyst Fuel Trim System Too Rich	Bank 2	
P209A	Reductant Injection Air Pressure Sensor "B" Circuit		
P209B	Reductant Injection Air Pressure Sensor "B" Circuit Range/Performance		
P209C	Reductant Injection Air Pressure Sensor "B" Circuit Low		
P209D	Reductant Injection Air Pressure Sensor "B" Circuit High		
P209E	Reductant Injection Air Pressure Sensor "A"/"B" Correlation		
P209F	Reductant Tank Heater Control Circuit Performance		
P20A0	Reductant Purge Control Valve Circuit /Open		
P20A1	Reductant Purge Control Valve Performance		
P20A2	Reductant Purge Control Valve Circuit Low		
P20A3	Reductant Purge Control Valve Circuit High		
P20A4	Reductant Purge Control Valve Stuck Open		
P20A5	Reductant Purge Control Valve Stuck Closed		
P20A6	Reductant Injection Air Pressure Control Valve Circuit/Open		
P20A7	Reductant Injection Air Pressure Control Valve Performance		
P20A8	Reductant Injection Air Pressure Control Valve Circuit Low		
P20A9	Reductant Injection Air Pressure Control Valve Circuit High		

DTC Number	DTC Naming	Location	Foot Note
P20AA	Reductant Injection Air Pressure Control Valve Stuck Open		
P20AB	Reductant Injection Air Pressure Control Valve Stuck Closed		
P20AC	Reductant Metering Unit Temperature Sensor Circuit		
P20AD	Reductant Metering Unit Temperature Sensor Circuit Range/Performance		
P20AE	Reductant Metering Unit Temperature Sensor Circuit Low		
P20AF	Reductant Metering Unit Temperature Sensor Circuit High		
P20B0	Reductant Metering Unit Temperature Sensor Circuit Intermittent/Erratic		
P20B1	Reductant Heater Coolant Control Valve Circuit/Open		
P20B2	Reductant Heater Coolant Control Valve Performance		
P20B3	Reductant Heater Coolant Control Valve Circuit Low		
P20B4	Reductant Heater Coolant Control Valve Circuit High		
P20B5	Reductant Metering Unit Heater Control Circuit/Open		
P20B6	Reductant Metering Unit Heater Control Circuit Performance		
P20B7	Reductant Metering Unit Heater Control Circuit Low		
P20B8	Reductant Metering Unit Heater Control Circuit High		
P20B9	Reductant Heater "A" Control Circuit/Open		
P20BA	Reductant Heater "A" Control Circuit Performance		
P20BB	Reductant Heater "A" Control Circuit Low		
P20BC	Reductant Heater "A" Control Circuit High		
P20BD	Reductant Heater "B" Control Circuit/Open		
P20BE	Reductant Heater "B" Control Circuit Performance		
P20BF	Reductant Heater "B" Control Circuit Low		
P20C0	Reductant Heater "B" Control Circuit High		
P20C1	Reductant Heater "C" Control Circuit/Open		
P20C2	Reductant Heater "C" Control Circuit Performance		
P20C3	Reductant Heater "C" Control Circuit Low		
P20C4	Reductant Heater "C" Control Circuit High		
P20C5	Reductant Heater "D" Control Circuit/Open		
P20C6	Reductant Heater "D" Control Circuit Performance		
P20C7	Reductant Heater "D" Control Circuit Low		
P20C8	Reductant Heater "D" Control Circuit High		
P20C9	Reductant Control Module Requested MIL Illumination		
P20CA	Reductant Injection Air Pressure Leakage		
P20CB	Exhaust Aftertreatment Fuel Injector "A" Control Circuit/Open		
P20CC	Exhaust Aftertreatment Fuel Injector "A" Control Performance		
P20CD	Exhaust Aftertreatment Fuel Injector "A" Control Circuit Low		
P20CE	Exhaust Aftertreatment Fuel Injector "A" Control Circuit High		
P20CF	Exhaust Aftertreatment Fuel Injector "A" Stuck Open		
P20D0	Exhaust Aftertreatment Fuel Injector "A" Stuck Closed		
P20D1	Exhaust Aftertreatment Fuel Injector "B" Control Circuit/Open		
P20D2	Exhaust Aftertreatment Fuel Injector "B" Control Performance		
P20D3	Exhaust Aftertreatment Fuel Injector "B" Control Circuit Low		
P20D4	Exhaust Aftertreatment Fuel Injector "B" Control Circuit High		
P20D5	Exhaust Aftertreatment Fuel Injector "B" Stuck Open		
P20D6	Exhaust Aftertreatment Fuel Injector "B" Stuck Closed		
P20D7	Exhaust Aftertreatment Fuel Supply Control Circuit/Open		
P20D8	Exhaust Aftertreatment Fuel Supply Control Performance		
P20D9	Exhaust Aftertreatment Fuel Supply Control Circuit Low		
P20DA	Exhaust Aftertreatment Fuel Supply Control Circuit High		
P20DB	Exhaust Aftertreatment Fuel Supply Control Stuck Open		
P20DC	Exhaust Aftertreatment Fuel Supply Control Stuck Closed		

DTC Number	DTC Naming	Location	Foot Note
P20DD	Exhaust Aftertreatment Fuel Pressure Sensor Circuit		
P20DE	Exhaust Aftertreatment Fuel Pressure Sensor Circuit Range/Performance		
P20DF	Exhaust Aftertreatment Fuel Pressure Sensor Circuit Low		
P20E0	Exhaust Aftertreatment Fuel Pressure Sensor Circuit High		
P20E1	Exhaust Aftertreatment Fuel Pressure Sensor Circuit Intermittent/Erratic		
P20E2	Exhaust Gas Temperature Sensor 1/2 Correlation	Bank 1	
P20E3	Exhaust Gas Temperature Sensor 1/3 Correlation	Bank 1	
P20E4	Exhaust Gas Temperature Sensor 2/3 Correlation	Bank 1	
P20E5	Exhaust Gas Temperature Sensor 1/2 Correlation	Bank 2	
P20E6	Reductant Injection Air Pressure Too Low		
P20E7	Reductant Injection Air Pressure Too High		
P20E8	Reductant Pressure Too Low		
P20E9	Reductant Pressure Too High		
P20EA	Reductant Control Module Power Relay De-Energized Performance - Too Early		
P20EB	Reductant Control Module Power Relay De-Energized Performance - Too Late		
P20EC	SCR NOx Catalyst - Over Temperature	Bank 1	
P20ED	SCR NOx Pre-Catalyst - Over Temperature	Bank 1	
P20EE	SCR NOx Catalyst Efficiency Below Threshold	Bank 1	
P20EF	SCR NOx Pre- Catalyst Efficiency Below Threshold	Bank 1	
P20F0	SCR NOx Catalyst - Over Temperature	Bank 2	
P20F1	SCR NOx Pre-Catalyst - Over Temperature	Bank 2	
P20F2	SCR NOx Catalyst Efficiency Below Threshold	Bank 2	
P20F3	SCR NOx Pre- Catalyst Efficiency Below Threshold	Bank 2	
P20F4	Reductant Consumption Too Low		
P20F5	Reductant Consumption Too High		
P20F6	Reductant Injection Valve Stuck Open	Bank 1 Unit 1	
P20F7	Reductant Injection Valve Stuck Open	Bank 2 Unit 1	
P20F8 – P20FF	ISO/SAE Reserved		

8) For DTCs P2088 - P2095 also see P0010 - P0023

a) The "A" camshaft shall be either the "intake," "left," or "front" camshaft. Left/Right and Front/Rear are determined as if viewed from the driver's seating position. Bank 1 contains cylinder number one, Bank 2 is the opposite bank.

b) The "B" camshaft shall be either the "exhaust," "right," or "rear" camshaft. Left/Right and Front/Rear are determined as if viewed from the driver's seating position. Bank 1 contains cylinder number one, Bank 2 is the opposite bank.

c) DTC Application note for Intake Manifold Tuning Valves and Intake Manifold Runner controls: Active controls are used to modify or control airflow within the engine air intake system. These controls may be used to enhance or modify in-cylinder airflow motion (charge motion), modify the airflow dynamics (manifold tuning) within the intake manifold or both. Devices that control charge motion are commonly called Intake Manifold Runner Control, Swirl Control Valve, and Charge Motion Control Valve. The ISO/SAE recommended term for any device that controls charge motion is Intake Manifold Runner Control (IMRC). Devices that control manifold dynamics or manifold tuning are commonly called Intake Manifold Tuning Valve, Long/Short Runner Control and Intake Manifold Communication Control. The SAE recommended term for any device that controls manifold tuning is Intake Manifold Tuning (IMT) Valve.

TABLE D19 - P21XX FUEL AND AIR METERING AND AUXILIARY EMISSION CONTROLS

DTC Number	DTC Naming	Location	Foot Note
P2100	Throttle Actuator "A" Control Motor Circuit/Open		9
P2101	Throttle Actuator "A" Control Motor Circuit Range/Performance		9
P2102	Throttle Actuator "A" Control Motor Circuit Low		9
P2103	Throttle Actuator "A" Control Motor Circuit High		9
P2104	Throttle Actuator Control System - Forced Idle		9
P2105	Throttle Actuator Control System - Forced Engine Shutdown		9
P2106	Throttle Actuator Control System - Forced Limited Power		9
P2107	Throttle Actuator Control Module Processor		9
P2108	Throttle Actuator Control Module Performance		9
P2109	Throttle/Pedal Position Sensor "A" Minimum Stop Performance		9
P210A	Throttle Actuator "B" Control Motor Circuit/Open		9
P210B	Throttle Actuator "B" Control Motor Circuit Range/Performance		9
P210C	Throttle Actuator "B" Control Motor Circuit Low		9
P210D	Throttle Actuator "B" Control Motor Circuit High		9
P210E	Throttle/Pedal Position Sensor/Switch "C"/"F" Voltage Correlation		9
P210F	ISO/SAE Reserved		
P2110	Throttle Actuator Control System - Forced Limited RPM		9
P2111	Throttle Actuator Control System - Stuck Open		9
P2112	Throttle Actuator Control System - Stuck Closed		9
P2113	Throttle/Pedal Position Sensor "B" Minimum Stop Performance		
P2114	Throttle/Pedal Position Sensor "C" Minimum Stop Performance		
P2115	Throttle/Pedal Position Sensor "D" Minimum Stop Performance		
P2116	Throttle/Pedal Position Sensor "E" Minimum Stop Performance		
P2117	Throttle/Pedal Position Sensor "F" Minimum Stop Performance		
P2118	Throttle Actuator Control Motor Current Range/Performance		9
P2119	Throttle Actuator Control Throttle Body Range/Performance		9
P211A	ISO/SAE Reserved		
P211B	ISO/SAE Reserved		
P211C	ISO/SAE Reserved		
P211D	ISO/SAE Reserved		
P211E	ISO/SAE Reserved		
P211F	ISO/SAE Reserved		
P2120	Throttle/Pedal Position Sensor/Switch "D" Circuit		
P2121	Throttle/Pedal Position Sensor/Switch "D" Circuit Range/Performance		
P2122	Throttle/Pedal Position Sensor/Switch "D" Circuit Low		
P2123	Throttle/Pedal Position Sensor/Switch "D" Circuit High		
P2124	Throttle/Pedal Position Sensor/Switch "D" Circuit Intermittent		
P2125	Throttle/Pedal Position Sensor/Switch "E" Circuit		
P2126	Throttle/Pedal Position Sensor/Switch "E" Circuit Range/Performance		
P2127	Throttle/Pedal Position Sensor/Switch "E" Circuit Low		
P2128	Throttle/Pedal Position Sensor/Switch "E" Circuit High		
P2129	Throttle/Pedal Position Sensor/Switch "E" Circuit Intermittent		
P212A	Throttle Position Sensor/Switch "G" Circuit		
P212B	Throttle Position Sensor/Switch "G" Circuit Range/Performance		
P212C	Throttle Position Sensor/Switch "G" Circuit Low		
P212D	Throttle Position Sensor/Switch "G" Circuit High		
P212E	Throttle Position Sensor/Switch "G" Circuit Intermittent		
P212F	ISO/SAE Reserved		

DTC Number	DTC Naming	Location	Foot Note
P2130	Throttle/Pedal Position Sensor/Switch "F" Circuit		
P2131	Throttle/Pedal Position Sensor/Switch "F" Circuit Range/Performance		
P2132	Throttle/Pedal Position Sensor/Switch "F" Circuit Low		
P2133	Throttle/Pedal Position Sensor/Switch "F" Circuit High		
P2134	Throttle/Pedal Position Sensor/Switch "F" Circuit Intermittent		
P2135	Throttle/Pedal Position Sensor/Switch "A"/"B" Voltage Correlation		
P2136	Throttle/Pedal Position Sensor/Switch "A"/"C" Voltage Correlation		
P2137	Throttle/Pedal Position Sensor/Switch "B"/"C" Voltage Correlation		
P2138	Throttle/Pedal Position Sensor/Switch "D"/"E" Voltage Correlation		
P2139	Throttle/Pedal Position Sensor/Switch "D"/"F" Voltage Correlation		
P213A	Exhaust Gas Recirculation Throttle Control Circuit "B" /Open		
P213B	Exhaust Gas Recirculation Throttle Control Circuit "B" Range/Performance		
P213C	Exhaust Gas Recirculation Throttle Control Circuit "B" Low		3
P213D	Exhaust Gas Recirculation Throttle Control Circuit "B" High		
P213E	Fuel Injection System Fault - Forced Engine Shutdown		
P213F	Fuel Pump System Fault - Forced Engine Shutdown		
P2140	Throttle/Pedal Position Sensor/Switch "E"/"F" Voltage Correlation		
P2141	Exhaust Gas Recirculation Throttle Control Circuit "A" Low		3
P2142	Exhaust Gas Recirculation Throttle Control Circuit "A" High		3
P2143	Exhaust Gas Recirculation Vent Control Circuit/Open		
P2144	Exhaust Gas Recirculation Vent Control Circuit Low		
P2145	Exhaust Gas Recirculation Vent Control Circuit High		
P2146	Fuel Injector Group "A" Supply Voltage Circuit/Open		
P2147	Fuel Injector Group "A" Supply Voltage Circuit Low		
P2148	Fuel Injector Group "A" Supply Voltage Circuit High		
P2149	Fuel Injector Group "B" Supply Voltage Circuit/Open		
P214A	ISO/SAE Reserved		
P214B	ISO/SAE Reserved		
P214C	ISO/SAE Reserved		
P214D	ISO/SAE Reserved		
P214E	ISO/SAE Reserved		
P214F	ISO/SAE Reserved		
P2150	Fuel Injector Group "B" Supply Voltage Circuit Low		
P2151	Fuel Injector Group "B" Supply Voltage Circuit High		
P2152	Fuel Injector Group "C" Supply Voltage Circuit/Open		
P2153	Fuel Injector Group "C" Supply Voltage Circuit Low		
P2154	Fuel Injector Group "C" Supply Voltage Circuit High		
P2155	Fuel Injector Group "D" Supply Voltage Circuit/Open		
P2156	Fuel Injector Group "D" Supply Voltage Circuit Low		
P2157	Fuel Injector Group "D" Supply Voltage Circuit High		
P2158	Vehicle Speed Sensor "B"		
P2159	Vehicle Speed Sensor "B" Range/Performance		
P215A	Vehicle Speed - Wheel Speed Correlation		
P215B	Vehicle Speed - Output Shaft Speed Correlation		
P215C	Output Shaft Speed - Wheel Speed Correlation		
P215D	ISO/SAE Reserved		
P215E	ISO/SAE Reserved		
P215F	ISO/SAE Reserved		
P2160	Vehicle Speed Sensor "B" Circuit Low		
P2161	Vehicle Speed Sensor "B" Intermittent/Erratic/High		
P2162	Vehicle Speed Sensor "A"/"B" Correlation		

DTC Number	DTC Naming	Location	Foot Note
P2163	Throttle/Pedal Position Sensor "A" Maximum Stop Performance		
P2164	Throttle/Pedal Position Sensor "B" Maximum Stop Performance		
P2165	Throttle/Pedal Position Sensor "C" Maximum Stop Performance		
P2166	Throttle/Pedal Position Sensor "D" Maximum Stop Performance		
P2167	Throttle/Pedal Position Sensor "E" Maximum Stop Performance		
P2168	Throttle/Pedal Position Sensor "F" Maximum Stop Performance		
P2169	Exhaust Pressure Regulator Vent Solenoid Control Circuit/Open		
P216A	Fuel Injector Group "E" Supply Voltage Circuit/Open		
P216B	Fuel Injector Group "E" Supply Voltage Circuit Low		
P216C	Fuel Injector Group "E" Supply Voltage Circuit High		
P216D	Fuel Injector Group "F" Supply Voltage Circuit/Open		
P216E	Fuel Injector Group "F" Supply Voltage Circuit Low		
P216F	Fuel Injector Group "F" Supply Voltage Circuit High		
P2170	Exhaust Pressure Regulator Vent Solenoid Control Circuit Low		
P2171	Exhaust Pressure Regulator Vent Solenoid Control Circuit High		
P2172	Throttle Actuator Control System - Sudden High Air Flow Detected		
P2173	Throttle Actuator Control System - High Air Flow Detected		
P2174	Throttle Actuator Control System - Sudden Low Air Flow Detected		
P2175	Throttle Actuator Control System - Low Air Flow Detected		
P2176	Throttle Actuator Control System - Idle Position Not Learned		
P2177	System Too Lean Off Idle	Bank 1	d
P2178	System Too Rich Off Idle	Bank 1	d
P2179	System Too Lean Off Idle	Bank 2	d
P217A	Fuel Injector Group "G" Supply Voltage Circuit/Open		
P217B	Fuel Injector Group "G" Supply Voltage Circuit Low		
P217C	Fuel Injector Group "G" Supply Voltage Circuit High		
P217D	Fuel Injector Group "H" Supply Voltage Circuit/Open		
P217E	Fuel Injector Group "H" Supply Voltage Circuit Low		
P217F	Fuel Injector Group "H" Supply Voltage Circuit High		
P2180	System Too Rich Off Idle	Bank 2	d
P2181	Cooling System Performance		
P2182	Engine Coolant Temperature Sensor 2 Circuit		
P2183	Engine Coolant Temperature Sensor 2 Circuit Range/Performance		
P2184	Engine Coolant Temperature Sensor 2 Circuit Low		
P2185	Engine Coolant Temperature Sensor 2 Circuit High		
P2186	Engine Coolant Temperature Sensor 2 Circuit Intermittent/Erratic		
P2187	System Too Lean at Idle	Bank 1	
P2188	System Too Rich at Idle	Bank 1	
P2189	System Too Lean at Idle	Bank 2	
P218A	ISO/SAE Reserved		
P218B	ISO/SAE Reserved		
P218C	ISO/SAE Reserved		
P218D	ISO/SAE Reserved		
P218E	ISO/SAE Reserved		
P218F	ISO/SAE Reserved		
P2190	System Too Rich at Idle	Bank 2	
P2191	System Too Lean at Higher Load	Bank 1	
P2192	System Too Rich at Higher Load	Bank 1	
P2193	System Too Lean at Higher Load	Bank 2	
P2194	System Too Rich at Higher Load	Bank 2	
P2195	O2 Sensor Signal Biased/Stuck Lean	Bank 1 Sensor 1	
P2196	O2 Sensor Signal Biased/Stuck Rich	Bank 1 Sensor 1	

DTC Number	DTC Naming	Location	Foot Note
P2197	O2 Sensor Signal Biased/Stuck Lean	Bank 2 Sensor 1	
P2198	O2 Sensor Signal Biased/Stuck Rich	Bank 2 Sensor 1	
P2199	Intake Air Temperature Sensor 1/2 Correlation		
P219A – P21FF	ISO/SAE Reserved		

3) DTCs P2141 - P2142 should be used with P0487 - P0488

9) For Throttle Actuator Control DTCs also see P0638 - P0639

d) Use P2177 - P2180 for fuel systems with multiple load ranges.

TABLE D20 - P22XX FUEL AND AIR METERING AND AUXILIARY EMISSION CONTROLS

DTC Number	DTC Naming	Location	Foot Note
P2200	NOx Sensor Circuit	Bank 1	
P2201	NOx Sensor Circuit Range/Performance	Bank 1	
P2202	NOx Sensor Circuit Low	Bank 1	
P2203	NOx Sensor Circuit High	Bank 1	
P2204	NOx Sensor Circuit Intermittent	Bank 1	
P2205	NOx Sensor Heater Control Circuit/Open	Bank 1	
P2206	NOx Sensor Heater Control Circuit Low	Bank 1	
P2207	NOx Sensor Heater Control Circuit High	Bank 1	
P2208	NOx Sensor Heater Sense Circuit	Bank 1	
P2209	NOx Sensor Heater Sense Circuit Range/Performance	Bank 1	
P220A	ISO/SAE Reserved		
P220B	ISO/SAE Reserved		
P220C	ISO/SAE Reserved		
P220D	ISO/SAE Reserved		
P220E	ISO/SAE Reserved		
P220F	ISO/SAE Reserved		
P2210	NOx Sensor Heater Sense Circuit Low	Bank 1	
P2211	NOx Sensor Heater Sense Circuit High	Bank 1	
P2212	NOx Sensor Heater Sense Circuit Intermittent	Bank 1	
P2213	NOx Sensor Circuit	Bank 2	
P2214	NOx Sensor Circuit Range/Performance	Bank 2	
P2215	NOx Sensor Circuit Low	Bank 2	
P2216	NOx Sensor Circuit High	Bank 2	
P2217	NOx Sensor Circuit Intermittent	Bank 2	
P2218	NOx Sensor Heater Control Circuit/Open	Bank 2	
P2219	NOx Sensor Heater Control Circuit Low	Bank 2	
P221A	ISO/SAE Reserved		
P221B	ISO/SAE Reserved		
P221C	ISO/SAE Reserved		
P221D	ISO/SAE Reserved		
P221E	ISO/SAE Reserved		
P221F	ISO/SAE Reserved		
P2220	NOx Sensor Heater Control Circuit High	Bank 2	
P2221	NOx Sensor Heater Sense Circuit	Bank 2	
P2222	NOx Sensor Heater Sense Circuit Range/Performance	Bank 2	
P2223	NOx Sensor Heater Sense Circuit Low	Bank 2	
P2224	NOx Sensor Heater Sense Circuit High	Bank 2	
P2225	NOx Sensor Heater Sense Circuit Intermittent	Bank 2	
P2226	Barometric Pressure Sensor "A" Circuit		
P2227	Barometric Pressure Sensor "A" Circuit Range/Performance		
P2228	Barometric Pressure Sensor "A" Circuit Low		

DTC Number	DTC Naming	Location	Foot Note
P2229	Barometric Pressure Sensor "A" Circuit High		
P222A	Barometric Pressure Sensor "B" Circuit		
P222B	Barometric Pressure Sensor "B" Circuit Range/Performance		
P222C	Barometric Pressure Sensor "B" Circuit Low		
P222D	Barometric Pressure Sensor "B" Circuit High		
P222E	Barometric Pressure Sensor "B" Circuit Intermittent/Erratic		
P222F	Barometric Pressure Sensor "A"/"B" Correlation		
P2230	Barometric Pressure Sensor "A" Circuit Intermittent/Erratic		
P2231	O2 Sensor Signal Circuit Shorted to Heater Circuit	Bank 1 Sensor 1	4
P2232	O2 Sensor Signal Circuit Shorted to Heater Circuit	Bank 1 Sensor 2	4
P2233	O2 Sensor Signal Circuit Shorted to Heater Circuit	Bank 1 Sensor 3	4
P2234	O2 Sensor Signal Circuit Shorted to Heater Circuit	Bank 2 Sensor 1	4
P2235	O2 Sensor Signal Circuit Shorted to Heater Circuit	Bank 2 Sensor 2	4
P2236	O2 Sensor Signal Circuit Shorted to Heater Circuit	Bank 2 Sensor 3	4
P2237	O2 Sensor Positive Current Control Circuit/Open	Bank 1 Sensor 1	5
P2238	O2 Sensor Positive Current Control Circuit Low	Bank 1 Sensor 1	5
P2239	O2 Sensor Positive Current Control Circuit High	Bank 1 Sensor 1	5
P223A	ISO/SAE Reserved		
P223B	ISO/SAE Reserved		
P223C	ISO/SAE Reserved		
P223D	ISO/SAE Reserved		
P223E	ISO/SAE Reserved		
P223F	ISO/SAE Reserved		
P2240	O2 Sensor Positive Current Control Circuit/Open	Bank 2 Sensor 1	5
P2241	O2 Sensor Positive Current Control Circuit Low	Bank 2 Sensor 1	5
P2242	O2 Sensor Positive Current Control Circuit High	Bank 2 Sensor 1	5
P2243	O2 Sensor Reference Voltage Circuit/Open	Bank 1 Sensor 1	5
P2244	O2 Sensor Reference Voltage Performance	Bank 1 Sensor 1	5
P2245	O2 Sensor Reference Voltage Circuit Low	Bank 1 Sensor 1	5
P2246	O2 Sensor Reference Voltage Circuit High	Bank 1 Sensor 1	5
P2247	O2 Sensor Reference Voltage Circuit/Open	Bank 2 Sensor 1	5
P2248	O2 Sensor Reference Voltage Performance	Bank 2 Sensor 1	5
P2249	O2 Sensor Reference Voltage Circuit Low	Bank 2 Sensor 1	5
P224A	ISO/SAE Reserved		
P224B	ISO/SAE Reserved		
P224C	ISO/SAE Reserved		
P224D	ISO/SAE Reserved		
P224E	ISO/SAE Reserved		
P224F	ISO/SAE Reserved		
P2250	O2 Sensor Reference Voltage Circuit High	Bank 2 Sensor 1	5
P2251	O2 Sensor Negative Current Control Circuit/Open	Bank 1 Sensor 1	5
P2252	O2 Sensor Negative Current Control Circuit Low	Bank 1 Sensor 1	5
P2253	O2 Sensor Negative Current Control Circuit High	Bank 1 Sensor 1	5
P2254	O2 Sensor Negative Current Control Circuit/Open	Bank 2 Sensor 1	5
P2255	O2 Sensor Negative Current Control Circuit Low	Bank 2 Sensor 1	5
P2256	O2 Sensor Negative Current Control Circuit High	Bank 2 Sensor 1	5
P2257	Secondary Air Injection System Control "A" Circuit Low		
P2258	Secondary Air Injection System Control "A" Circuit High		
P2259	Secondary Air Injection System Control "B" Circuit Low		
P225A	ISO/SAE Reserved		
P225B	ISO/SAE Reserved		
P225C	ISO/SAE Reserved		

DTC Number	DTC Naming	Location	Foot Note
P225D	ISO/SAE Reserved		
P225E	ISO/SAE Reserved		
P225F	ISO/SAE Reserved		
P2260	Secondary Air Injection System Control "B" Circuit High		
P2261	Turbocharger/Supercharger Bypass Valve - Mechanical		
P2262	Turbocharger/Supercharger Boost Pressure Not Detected - Mechanical		
P2263	Turbocharger/Supercharger Boost System Performance		
P2264	Water in Fuel Sensor Circuit		
P2265	Water in Fuel Sensor Circuit Range/Performance		
P2266	Water in Fuel Sensor Circuit Low		
P2267	Water in Fuel Sensor Circuit High		
P2268	Water in Fuel Sensor Circuit Intermittent		
P2269	Water in Fuel Condition		
P226A	Water in Fuel Lamp Control Circuit		
P226B	Turbocharger/Supercharger Boost Pressure Too High - Mechanical		
P226C	ISO/SAE Reserved		
P226D	ISO/SAE Reserved		
P226E	ISO/SAE Reserved		
P226F	ISO/SAE Reserved		
P2270	O2 Sensor Signal Biased/Stuck Lean	Bank 1 Sensor 2	
P2271	O2 Sensor Signal Biased/Stuck Rich	Bank 1 Sensor 2	
P2272	O2 Sensor Signal Biased/Stuck Lean	Bank 2 Sensor 2	
P2273	O2 Sensor Signal Biased/Stuck Rich	Bank 2 Sensor 2	
P2274	O2 Sensor Signal Biased/Stuck Lean	Bank 1 Sensor 3	
P2275	O2 Sensor Signal Biased/Stuck Rich	Bank 1 Sensor 3	
P2276	O2 Sensor Signal Biased/Stuck Lean	Bank 2 Sensor 3	
P2277	O2 Sensor Signal Biased/Stuck Rich	Bank 2 Sensor 3	
P2278	O2 Sensor Signals Swapped Bank 1 Sensor 3/Bank 2 Sensor 3		
P2279	Intake Air System Leak		
P227A	ISO/SAE Reserved		
P227B	ISO/SAE Reserved		
P227C	ISO/SAE Reserved		
P227D	ISO/SAE Reserved		
P227E	ISO/SAE Reserved		
P227F	ISO/SAE Reserved		
P2280	Air Flow Restriction/Air Leak Between Air Filter and MAF		
P2281	Air Leak Between MAF and Throttle Body		
P2282	Air Leak Between Throttle Body and Intake Valves		
P2283	Injector Control Pressure Sensor Circuit		
P2284	Injector Control Pressure Sensor Circuit Range/Performance		
P2285	Injector Control Pressure Sensor Circuit Low		
P2286	Injector Control Pressure Sensor Circuit High		
P2287	Injector Control Pressure Sensor Circuit Intermittent		
P2288	Injector Control Pressure Too High		
P2289	Injector Control Pressure Too High - Engine Off		
P228A	Fuel Pressure Regulator 1 - Forced Engine Shutdown		
P228B	Fuel Pressure Regulator 2 - Forced Engine Shutdown		
P228C	Fuel Pressure Regulator 1 Exceeded Control Limits - Pressure Too Low		
P228D	Fuel Pressure Regulator 1 Exceeded Control Limits - Pressure Too High		
P228E	Fuel Pressure Regulator 1 Exceeded Learning Limits - Too Low		

DTC Number	DTC Naming	Location	Foot Note
P228F	Fuel Pressure Regulator 1 Exceeded Learning Limits - Too High		
P2290	Injector Control Pressure Too Low		
P2291	Injector Control Pressure Too Low - Engine Cranking		
P2292	Injector Control Pressure Erratic		
P2293	Fuel Pressure Regulator 2 Performance		
P2294	Fuel Pressure Regulator 2 Control Circuit/Open		
P2295	Fuel Pressure Regulator 2 Control Circuit Low		
P2296	Fuel Pressure Regulator 2 Control Circuit High		
P2297	O2 Sensor Out of Range During Deceleration	Bank 1 Sensor 1	
P2298	O2 Sensor Out of Range During Deceleration	Bank 2 Sensor 1	
P2299	Brake Pedal Position/Accelerator Pedal Position Incompatible		
P229A	Fuel Pressure Regulator 2 Exceeded Control Limits - Pressure Too Low		
P229B	Fuel Pressure Regulator 2 Exceeded Control Limits - Pressure Too High		
P229C	Fuel Pressure Regulator 2 Exceeded Learning Limits - Too Low		
P229D	Fuel Pressure Regulator 2 Exceeded Learning Limits - Too High		
P229E – P22FF	ISO/SAE Reserved		

4) P2231 - P2236, This diagnostic is for the sensors (both wide band and switching) that have a PWM controlled heater. If the heater shorts to the signal circuit, the control module can determine this since the signal circuit will be shorted high at the same frequency that the heaters are operating at.
5) P2237 - P2256, These are the diagnostics for the primary circuits of the wide band oxygen sensors.

TABLE D21 - P23XX IGNITION SYSTEM OR MISFIRE

DTC Number	DTC Naming	Location	Foot Note
P2300	Ignition Coil "A" Primary Control Circuit Low		
P2301	Ignition Coil "A" Primary Control Circuit High		
P2302	Ignition Coil "A" Secondary Circuit		
P2303	Ignition Coil "B" Primary Control Circuit Low		
P2304	Ignition Coil "B" Primary Control Circuit High		
P2305	Ignition Coil "B" Secondary Circuit		
P2306	Ignition Coil "C" Primary Control Circuit Low		
P2307	Ignition Coil "C" Primary Control Circuit High		
P2308	Ignition Coil "C" Secondary Circuit		
P2309	Ignition Coil "D" Primary Control Circuit Low		
P230A	ISO/SAE Reserved		
P230B	ISO/SAE Reserved		
P230C	ISO/SAE Reserved		
P230D	ISO/SAE Reserved		
P230E	ISO/SAE Reserved		
P230F	ISO/SAE Reserved		
P2310	Ignition Coil "D" Primary Control Circuit High		
P2311	Ignition Coil "D" Secondary Circuit		
P2312	Ignition Coil "E" Primary Control Circuit Low		
P2313	Ignition Coil "E" Primary Control Circuit High		
P2314	Ignition Coil "E" Secondary Circuit		
P2315	Ignition Coil "F" Primary Control Circuit Low		
P2316	Ignition Coil "F" Primary Control Circuit High		
P2317	Ignition Coil "F" Secondary Circuit		
P2318	Ignition Coil "G" Primary Control Circuit Low		
P2319	Ignition Coil "G" Primary Control Circuit High		
P231A	ISO/SAE Reserved		

DTC Number	DTC Naming	Location	Foot Note
P231B	ISO/SAE Reserved		
P231C	ISO/SAE Reserved		
P231D	ISO/SAE Reserved		
P231E	ISO/SAE Reserved		
P231F	ISO/SAE Reserved		
P2320	Ignition Coil "G" Secondary Circuit		
P2321	Ignition Coil "H" Primary Control Circuit Low		
P2322	Ignition Coil "H" Primary Control Circuit High		
P2323	Ignition Coil "H" Secondary Circuit		
P2324	Ignition Coil "I" Primary Control Circuit Low		
P2325	Ignition Coil "I" Primary Control Circuit High		
P2326	Ignition Coil "I" Secondary Circuit		
P2327	Ignition Coil "J" Primary Control Circuit Low		
P2328	Ignition Coil "J" Primary Control Circuit High		
P2329	Ignition Coil "J" Secondary Circuit		
P232A	ISO/SAE Reserved		
P232B	ISO/SAE Reserved		
P232C	ISO/SAE Reserved		
P232D	ISO/SAE Reserved		
P232E	ISO/SAE Reserved		
P232F	ISO/SAE Reserved		
P2330	Ignition Coil "K" Primary Control Circuit Low		
P2331	Ignition Coil "K" Primary Control Circuit High		
P2332	Ignition Coil "K" Secondary Circuit		
P2333	Ignition Coil "L" Primary Control Circuit Low		
P2334	Ignition Coil "L" Primary Control Circuit High		
P2335	Ignition Coil "L" Secondary Circuit		
P2336	Cylinder 1 Above Knock Threshold		
P2337	Cylinder 2 Above Knock Threshold		
P2338	Cylinder 3 Above Knock Threshold		
P2339	Cylinder 4 Above Knock Threshold		
P233A	ISO/SAE Reserved		
P233B	ISO/SAE Reserved		
P233C	ISO/SAE Reserved		
P233D	ISO/SAE Reserved		
P233E	ISO/SAE Reserved		
P233F	ISO/SAE Reserved		
P2340	Cylinder 5 Above Knock Threshold		
P2341	Cylinder 6 Above Knock Threshold		
P2342	Cylinder 7 Above Knock Threshold		
P2343	Cylinder 8 Above Knock Threshold		
P2344	Cylinder 9 Above Knock Threshold		
P2345	Cylinder 10 Above Knock Threshold		
P2346	Cylinder 11 Above Knock Threshold		
P2347	Cylinder 12 Above Knock Threshold		
P2348 – P23FF	ISO/SAE Reserved		

TABLE D22 - P24XX AUXILIARY EMISSION CONTROLS

DTC Number	DTC Naming	Location	Foot Note
P2400	Evaporative Emission System Leak Detection Pump Control Circuit/Open		
P2401	Evaporative Emission System Leak Detection Pump Control Circuit Low		
P2402	Evaporative Emission System Leak Detection Pump Control Circuit High		
P2403	Evaporative Emission System Leak Detection Pump Sense Circuit/Open		
P2404	Evaporative Emission System Leak Detection Pump Sense Circuit Range/Performance		
P2405	Evaporative Emission System Leak Detection Pump Sense Circuit Low		
P2406	Evaporative Emission System Leak Detection Pump Sense Circuit High		
P2407	Evaporative Emission System Leak Detection Pump Sense Circuit Intermittent/Erratic		
P2408	Fuel Cap Sensor/Switch Circuit		
P2409	Fuel Cap Sensor/Switch Circuit Range/Performance		
P240A	Evaporative Emission System Leak Detection Pump Heater Control Circuit/Open		
P240B	Evaporative Emission System Leak Detection Pump Heater Control Circuit Low		
P240C	Evaporative Emission System Leak Detection Pump Heater Control Circuit High		
P240D	ISO/SAE Reserved		
P240E	ISO/SAE Reserved		
P240F	ISO/SAE Reserved		
P2410	Fuel Cap Sensor/Switch Circuit Low		
P2411	Fuel Cap Sensor/Switch Circuit High		
P2412	Fuel Cap Sensor/Switch Circuit Intermittent/Erratic		
P2413	Exhaust Gas Recirculation System Performance		
P2414	O2 Sensor Exhaust Sample Error	Bank 1 Sensor 1	
P2415	O2 Sensor Exhaust Sample Error	Bank 2 Sensor 1	
P2416	O2 Sensor Signals Swapped Bank 1 Sensor 2/Bank 1 Sensor 3		
P2417	O2 Sensor Signals Swapped Bank 2 Sensor 2/Bank 2 Sensor 3		
P2418	Evaporative Emission System Switching Valve Control Circuit/Open		
P2419	Evaporative Emission System Switching Valve Control Circuit Low		
P241A	ISO/SAE Reserved		
P241B	ISO/SAE Reserved		
P241C	ISO/SAE Reserved		
P241D	ISO/SAE Reserved		
P241E	ISO/SAE Reserved		
P241F	ISO/SAE Reserved		
P2420	Evaporative Emission System Switching Valve Control Circuit High		
P2421	Evaporative Emission System Vent Valve Stuck Open		
P2422	Evaporative Emission System Vent Valve Stuck Closed		
P2423	HC Adsorption Catalyst Efficiency Below Threshold	Bank 1	
P2424	HC Adsorption Catalyst Efficiency Below Threshold	Bank 2	
P2425	Exhaust Gas Recirculation Cooling Valve Control Circuit/Open		
P2426	Exhaust Gas Recirculation Cooling Valve Control Circuit Low		
P2427	Exhaust Gas Recirculation Cooling Valve Control Circuit High		
P2428	Exhaust Gas Temperature Too High	Bank 1	

DTC Number	DTC Naming	Location	Foot Note
P2429	Exhaust Gas Temperature Too High	Bank 2	
P242A	Exhaust Gas Temperature Sensor Circuit	Bank 1 Sensor 3	
P242B	Exhaust Gas Temperature Sensor Circuit Range/Performance	Bank 1 Sensor 3	
P242C	Exhaust Gas Temperature Sensor Circuit Low	Bank 1 Sensor 3	
P242D	Exhaust Gas Temperature Sensor Circuit High	Bank 1 Sensor 3	
P242E	Exhaust Gas Temperature Sensor Circuit Intermittent/Erratic	Bank 1 Sensor 3	
P242F	Diesel Particulate Filter Restriction - Ash Accumulation		
P2430	Secondary Air Injection System Air Flow/Pressure Sensor Circuit	Bank 1	
P2431	Secondary Air Injection System Air Flow/Pressure Sensor Circuit Range/Performance	Bank 1	
P2432	Secondary Air Injection System Air Flow/Pressure Sensor Circuit Low	Bank 1	
P2433	Secondary Air Injection System Air Flow/Pressure Sensor Circuit High	Bank 1	
P2434	Secondary Air Injection System Air Flow/Pressure Sensor Circuit Intermittent/Erratic	Bank 1	
P2435	Secondary Air Injection System Air Flow/Pressure Sensor Circuit	Bank 2	
P2436	Secondary Air Injection System Air Flow/Pressure Sensor Circuit Range/Performance	Bank 2	
P2437	Secondary Air Injection System Air Flow/Pressure Sensor Circuit Low	Bank 2	
P2438	Secondary Air Injection System Air Flow/Pressure Sensor Circuit High	Bank 2	
P2439	Secondary Air Injection System Air Flow/Pressure Sensor Circuit Intermittent/Erratic	Bank 2	
P243A	ISO/SAE Reserved		
P243B	ISO/SAE Reserved		
P243C	ISO/SAE Reserved		
P243D	ISO/SAE Reserved		
P243E	ISO/SAE Reserved		
P243F	ISO/SAE Reserved		
P2440	Secondary Air Injection System Switching Valve Stuck Open	Bank 1	
P2441	Secondary Air Injection System Switching Valve Stuck Closed	Bank 1	
P2442	Secondary Air Injection System Switching Valve Stuck Open	Bank 2	
P2443	Secondary Air Injection System Switching Valve Stuck Closed	Bank 2	
P2444	Secondary Air Injection System Pump Stuck On	Bank 1	
P2445	Secondary Air Injection System Pump Stuck Off	Bank 1	
P2446	Secondary Air Injection System Pump Stuck On	Bank 2	
P2447	Secondary Air Injection System Pump Stuck Off	Bank 2	
P2448	Secondary Air Injection System High Air Flow	Bank 1	
P2449	Secondary Air Injection System High Air Flow	Bank 2	
P244A	Diesel Particulate Filter Differential Pressure Too Low	Bank 1	
P244B	Diesel Particulate Filter Differential Pressure Too High	Bank 1	
P244C	Exhaust Temperature Too Low For Particulate Filter Regeneration	Bank 1	
P244D	Exhaust Temperature Too High For Particulate Filter Regeneration	Bank 1	
P244E	Exhaust Temperature Too Low For Particulate Filter Regeneration	Bank 2	
P244F	Exhaust Temperature Too High For Particulate Filter Regeneration	Bank 2	
P2450	Evaporative Emission System Switching Valve Performance/Stuck Open		
P2451	Evaporative Emission System Switching Valve Stuck Closed		
P2452	Diesel Particulate Filter Pressure Sensor "A" Circuit		
P2453	Diesel Particulate Filter Pressure Sensor "A" Circuit Range/Performance		
P2454	Diesel Particulate Filter Pressure Sensor "A" Circuit Low		

DTC Number	DTC Naming	Location	Foot Note
P2455	Diesel Particulate Filter Pressure Sensor "A" Circuit High		
P2456	Diesel Particulate Filter Pressure Sensor "A" Circuit Intermittent/Erratic		
P2457	Exhaust Gas Recirculation Cooling System Performance		
P2458	Diesel Particulate Filter Regeneration Duration		
P2459	Diesel Particulate Filter Regeneration Frequency		
P245A	Exhaust Gas Recirculation Cooler Bypass Control Circuit/Open		
P245B	Exhaust Gas Recirculation Cooler Bypass Control Circuit Range/Performance		
P245C	Exhaust Gas Recirculation Cooler Bypass Control Circuit Low		
P245D	Exhaust Gas Recirculation Cooler Bypass Control Circuit High		
P245E	Diesel Particulate Filter Pressure Sensor "B" Circuit		
P245F	Diesel Particulate Filter Pressure Sensor "B" Circuit Range/Performance		
P2460	Diesel Particulate Filter Pressure Sensor "B" Circuit Low		
P2461	Diesel Particulate Filter Pressure Sensor "B" Circuit High		
P2462	Diesel Particulate Filter Pressure Sensor "B" Circuit Intermittent/Erratic		
P2463	Diesel Particulate Filter Restriction - Soot Accumulation		
P2464	Diesel Particulate Filter Differential Pressure Too Low	Bank 2	
P2465	Diesel Particulate Filter Differential Pressure Too High	Bank 2	
P2466	Exhaust Gas Temperature Sensor Circuit	Bank 2 Sensor 3	
P2467	Exhaust Gas Temperature Sensor Circuit Range/Performance	Bank 2 Sensor 3	
P2468	Exhaust Gas Temperature Sensor Circuit Low	Bank 2 Sensor 3	
P2469	Exhaust Gas Temperature Sensor Circuit High	Bank 2 Sensor 3	
P246A	Exhaust Gas Temperature Sensor Circuit Intermittent/Erratic	Bank 2 Sensor 3	
P246B	Vehicle Conditions Incorrect for Diesel Particulate Filter Regeneration		
P246C	Diesel Particulate Filter Restriction - Forced Limited Power		
P246D	Diesel Particulate Filter Pressure Sensor "A"/"B" Correlation		
P246E	Exhaust Gas Temperature Sensor Circuit	Bank 1 Sensor 4	
P246F	Exhaust Gas Temperature Sensor Circuit Range/Performance	Bank 1 Sensor 4	
P2470	Exhaust Gas Temperature Sensor Circuit Low	Bank 1 Sensor 4	
P2471	Exhaust Gas Temperature Sensor Circuit High	Bank 1 Sensor 4	
P2472	Exhaust Gas Temperature Sensor Circuit Intermittent/Erratic	Bank 1 Sensor 4	
P2473	Exhaust Gas Temperature Sensor Circuit	Bank 2 Sensor 4	
P2474	Exhaust Gas Temperature Sensor Circuit Range/Performance	Bank 2 Sensor 4	
P2475	Exhaust Gas Temperature Sensor Circuit Low	Bank 2 Sensor 4	
P2476	Exhaust Gas Temperature Sensor Circuit High	Bank 2 Sensor 4	
P2477	Exhaust Gas Temperature Sensor Circuit Intermittent/Erratic	Bank 2 Sensor 4	
P2478	Exhaust Gas Temperature Out of Range	Bank 1 Sensor 1	
P2479	Exhaust Gas Temperature Out of Range	Bank 1 Sensor 2	
P247A	Exhaust Gas Temperature Out of Range	Bank 1 Sensor 3	
P247B	Exhaust Gas Temperature Out of Range	Bank 1 Sensor 4	
P247C	Exhaust Gas Temperature Out of Range	Bank 2 Sensor 1	
P247D	Exhaust Gas Temperature Out of Range	Bank 2 Sensor 2	
P247E	Exhaust Gas Temperature Out of Range	Bank 2 Sensor 3	
P247F	Exhaust Gas Temperature Out of Range	Bank 2 Sensor 4	
P2480	Exhaust Gas Temperature Sensor Circuit/Open	Bank 1 Sensor 5	
P2481	Exhaust Gas Temperature Sensor Circuit Low	Bank 1 Sensor 5	
P2482	Exhaust Gas Temperature Sensor Circuit High	Bank 1 Sensor 5	
P2483	Exhaust Gas Temperature Sensor Circuit Range/Performance	Bank 1 Sensor 5	
P2484	Exhaust Gas Temperature Sensor Circuit Intermittent/Erratic	Bank 1 Sensor 5	

DTC Number	DTC Naming	Location	Foot Note
P2485	Exhaust Gas Temperature Sensor Circuit/Open	Bank 2 Sensor 5	
P2486	Exhaust Gas Temperature Sensor Circuit Low	Bank 2 Sensor 5	
P2487	Exhaust Gas Temperature Sensor Circuit High	Bank 2 Sensor 5	
P2488	Exhaust Gas Temperature Sensor Circuit Range/Performance	Bank 2 Sensor 5	
P2489	Exhaust Gas Temperature Sensor Circuit Intermittent/Erratic	Bank 2 Sensor 5	
P248A – P24FF	ISO/SAE Reserved		

TABLE D23 - P25XX AUXILIARY INPUTS

DTC Number	DTC Naming	Location	Foot Note
P2500	Generator Lamp/L-Terminal Circuit Low		
P2501	Generator Lamp/L-Terminal Circuit High		
P2502	Charging System Voltage		
P2503	Charging System Voltage Low		
P2504	Charging System Voltage High		
P2505	ECM/PCM Power Input Signal		6
P2506	ECM/PCM Power Input Signal Range/Performance		6
P2507	ECM/PCM Power Input Signal Low		6
P2508	ECM/PCM Power Input Signal High		6
P2509	ECM/PCM Power Input Signal Intermittent		6
P250A	Engine Oil Level Sensor Circuit		
P250B	Engine Oil Level Sensor Circuit Range/Performance		
P250C	Engine Oil Level Sensor Circuit Low		
P250D	Engine Oil Level Sensor Circuit High		
P250E	Engine Oil Level Sensor Circuit Intermittent/Erratic		
P250F	Engine Oil Level Too Low		
P2510	ECM/PCM Power Relay Sense Circuit Range/Performance		
P2511	ECM/PCM Power Relay Sense Circuit Intermittent		
P2512	Event Data Recorder Request Circuit/ Open		
P2513	Event Data Recorder Request Circuit Low		
P2514	Event Data Recorder Request Circuit High		
P2515	A/C Refrigerant Pressure Sensor "B" Circuit		
P2516	A/C Refrigerant Pressure Sensor "B" Circuit Range/Performance		
P2517	A/C Refrigerant Pressure Sensor "B" Circuit Low		
P2518	A/C Refrigerant Pressure Sensor "B" Circuit High		
P2519	A/C Request "A" Circuit		
P251A	PTO Enable Switch Circuit/Open		
P251B	PTO Enable Switch Circuit Low		
P251C	PTO Enable Switch Circuit High		
P251D	PTO Engine Shutdown Circuit/Open		
P251E	PTO Engine Shutdown Circuit Low		
P251F	PTO Engine Shutdown Circuit High		
P2520	A/C Request "A" Circuit Low		
P2521	A/C Request "A" Circuit High		
P2522	A/C Request "B" Circuit		
P2523	A/C Request "B" Circuit Low		
P2524	A/C Request "B" Circuit High		
P2525	Vacuum Reservoir Pressure Sensor Circuit		
P2526	Vacuum Reservoir Pressure Sensor Circuit Range/Performance		
P2527	Vacuum Reservoir Pressure Sensor Circuit Low		
P2528	Vacuum Reservoir Pressure Sensor Circuit High		
P2529	Vacuum Reservoir Pressure Sensor Circuit Intermittent		

DTC Number	DTC Naming	Location	Foot Note
P252A	Engine Oil Quality Sensor Circuit		
P252B	Engine Oil Quality Sensor Circuit Range/Performance		
P252C	Engine Oil Quality Sensor Circuit Low		
P252D	Engine Oil Quality Sensor Circuit High		
P252E	Engine Oil Quality Circuit Intermittent/Erratic		
P252F	Engine Oil Level Too High		
P2530	Ignition Switch Run Position Circuit		
P2531	Ignition Switch Run Position Circuit Low		
P2532	Ignition Switch Run Position Circuit High		
P2533	Ignition Switch Run/Start Position Circuit		
P2534	Ignition Switch Run/Start Position Circuit Low		
P2535	Ignition Switch Run/Start Position Circuit High		
P2536	Ignition Switch Accessory Position Circuit		
P2537	Ignition Switch Accessory Position Circuit Low		
P2538	Ignition Switch Accessory Position Circuit High		
P2539	Low Pressure Fuel System Sensor Circuit		
P253A	PTO Sense Circuit/Open		
P253B	PTO Sense Circuit Range/Performance		
P253C	PTO Sense Circuit Low		
P253D	PTO Sense Circuit High		
P253E	PTO Sense Circuit Intermittent/Erratic		
P253F	Engine Oil Deteriorated		
P2540	Low Pressure Fuel System Sensor Circuit Range/Performance		
P2541	Low Pressure Fuel System Sensor Circuit Low		
P2542	Low Pressure Fuel System Sensor Circuit High		
P2543	Low Pressure Fuel System Sensor Circuit Intermittent		
P2544	Torque Management Request Input Signal "A"		
P2545	Torque Management Request Input Signal "A" Range/Performance		
P2546	Torque Management Request Input Signal "A" Low		
P2547	Torque Management Request Input Signal "A" High		
P2548	Torque Management Request Input Signal "B"		
P2549	Torque Management Request Input Signal "B" Range/Performance		
P254A	PTO Speed Selector Sensor/Switch 1 Circuit/Open		
P254B	PTO Speed Selector Sensor/Switch 1 Range/Performance		
P254C	PTO Speed Selector Sensor/Switch 1 Circuit Low		
P254D	PTO Speed Selector Sensor/Switch 1 Circuit High		
P254E	PTO Speed Selector Sensor/Switch 1 Circuit Intermittent/Erratic		
P254F	Engine Hood Switch Circuit		
P2550	Torque Management Request Input Signal "B" Low		
P2551	Torque Management Request Input Signal "B" High		
P2552	Throttle/Fuel Inhibit Circuit		
P2553	Throttle/Fuel Inhibit Circuit Range/Performance		
P2554	Throttle/Fuel Inhibit Circuit Low		
P2555	Throttle/Fuel Inhibit Circuit High		
P2556	Engine Coolant Level Sensor/Switch Circuit		
P2557	Engine Coolant Level Sensor/Switch Circuit Range/Performance		
P2558	Engine Coolant Level Sensor/Switch Circuit Low		
P2559	Engine Coolant Level Sensor/Switch Circuit High		
P255A	PTO Speed Selector Sensor/Switch 2 Circuit/Open		
P255B	PTO Speed Selector Sensor/Switch 2 Range/Performance		
P255C	PTO Speed Selector Sensor/Switch 2 Circuit Low		
P255D	PTO Speed Selector Sensor/Switch 2 Circuit High		

DTC Number	DTC Naming	Location	Foot Note
P255E	PTO Speed Selector Sensor/Switch 2 Circuit Intermittent/Erratic		
P255F	A/C Request "A" Circuit Range/Performance		
P2560	Engine Coolant Level Low		
P2561	A/C Control Module Requested MIL Illumination		
P2562	Turbocharger Boost Control Position Sensor "A" Circuit		
P2563	Turbocharger Boost Control Position Sensor "A" Circuit Range/Performance		
P2564	Turbocharger Boost Control Position Sensor "A" Circuit Low		
P2565	Turbocharger Boost Control Position Sensor "A" Circuit High		
P2566	Turbocharger Boost Control Position Sensor "A" Circuit Intermittent		
P2567	Direct Ozone Reduction Catalyst Temperature Sensor Circuit		
P2568	Direct Ozone Reduction Catalyst Temperature Sensor Circuit Range/Performance		
P2569	Direct Ozone Reduction Catalyst Temperature Sensor Circuit Low		
P256A	Engine Idle Speed Selector Sensor/Switch Circuit/Open		
P256B	Engine Idle Speed Selector Sensor/Switch Range/Performance		
P256C	Engine Idle Speed Selector Sensor/Switch Circuit Low		
P256D	Engine Idle Speed Selector Sensor/Switch Circuit High		
P256E	Engine Idle Speed Selector Sensor/Switch Circuit Intermittent/Erratic		
P256F	A/C Request "B" Circuit Range/Performance		
P2570	Direct Ozone Reduction Catalyst Temperature Sensor Circuit High		
P2571	Direct Ozone Reduction Catalyst Temperature Sensor Circuit Intermittent/Erratic		
P2572	Direct Ozone Reduction Catalyst Deterioration Sensor Circuit		
P2573	Direct Ozone Reduction Catalyst Deterioration Sensor Circuit Range/Performance		
P2574	Direct Ozone Reduction Catalyst Deterioration Sensor Circuit Low		
P2575	Direct Ozone Reduction Catalyst Deterioration Sensor Circuit High		
P2576	Direct Ozone Reduction Catalyst Deterioration Sensor Circuit Intermittent/Erratic		
P2577	Direct Ozone Reduction Catalyst Efficiency Below Threshold		
P2578	Turbocharger Speed Sensor Circuit		
P2579	Turbocharger Speed Sensor Circuit Range/Performance		
P257A	Vacuum Reservoir Control Circuit/Open		
P257B	Vacuum Reservoir Control Circuit Low		
P257C	Vacuum Reservoir Control Circuit High		
P257D	Engine Hood Switch Circuit Range/Performance		
P257E	Engine Hood Switch Circuit Low		
P257F	Engine Hood Switch Circuit High		
P2580	Turbocharger Speed Sensor Circuit Low		
P2581	Turbocharger Speed Sensor Circuit High		
P2582	Turbocharger Speed Sensor Circuit Intermittent		
P2583	Cruise Control Front Distance Range Sensor	Single Sensor or Center	
P2584	Fuel Additive Control Module Requested MIL Illumination		
P2585	Fuel Additive Control Module Warning Lamp Request		
P2586	Turbocharger Boost Control Position Sensor "B" Circuit		
P2587	Turbocharger Boost Control Position Sensor "B" Circuit Range/Performance		
P2588	Turbocharger Boost Control Position Sensor "B" Circuit Low		
P2589	Turbocharger Boost Control Position Sensor "B" Circuit High		
P258A	Vacuum Pump Control Circuit/Open		
P258B	Vacuum Pump Control Range/Performance		

DTC Number	DTC Naming	Location	Foot Note
P258C	Vacuum Pump Control Circuit Low		
P258D	Vacuum Pump Control Circuit High		
P258E	PTO Enable Switch Performance		
P258F	Torque Management Request Output Signal		
P2590	Turbocharger Boost Control Position Sensor "B" Circuit Intermittent/Erratic		
P2591	Cruise Control Front Distance Range Sensor	Left	
P2592	Cruise Control Front Distance Range Sensor	Right	
P2593 – P25FF	ISO/SAE Reserved		

6) For DTCs P2505 - P2509 also see P0685

TABLE D24 - P26XX COMPUTER AND AUXILIARY OUTPUTS

DTC Number	DTC Naming	Location	Foot Note
P2600	Coolant Pump "A" Control Circuit/Open		
P2601	Coolant Pump "A" Control Circuit Range/Performance		
P2602	Coolant Pump "A" Control Circuit Low		
P2603	Coolant Pump "A" Control Circuit High		
P2604	Intake Air Heater "A" Circuit Range/Performance		7
P2605	Intake Air Heater "B" Circuit/Open		7
P2606	Intake Air Heater "B" Circuit Range/Performance		7
P2607	Intake Air Heater "B" Circuit Low		7
P2608	Intake Air Heater "B" Circuit High		7
P2609	Intake Air Heater System Performance		7
P260A	PTO Control Circuit/Open		
P260B	PTO Control Circuit Low		
P260C	PTO Control Circuit High		
P260D	PTO Engaged Lamp Control Circuit		
P260E	Diesel Particulate Filter Regeneration Lamp Control Circuit		
P260F	Evaporative System Monitoring Processor Performance		
P2610	ECM/PCM Internal Engine Off Timer Performance		
P2611	A/C Refrigerant Distribution Valve Control Circuit/Open		
P2612	A/C Refrigerant Distribution Valve Control Circuit Low		
P2613	A/C Refrigerant Distribution Valve Control Circuit High		
P2614	Camshaft Position Signal Output Circuit/Open		
P2615	Camshaft Position Signal Output Circuit Low		
P2616	Camshaft Position Signal Output Circuit High		
P2617	Crankshaft Position Signal Output Circuit/Open		
P2618	Crankshaft Position Signal Output Circuit Low		
P2619	Crankshaft Position Signal Output Circuit High		
P261A	Coolant Pump "B" Control Circuit/Open		
P261B	Coolant Pump "B" Control Circuit Range/Performance		
P261C	Coolant Pump "B" Control Circuit Low		
P261D	Coolant Pump "B" Control Circuit High		
P261E	ISO/SAE Reserved		
P261F	ISO/SAE Reserved		
P2620	Throttle Position Output Circuit/Open		
P2621	Throttle Position Output Circuit Low		
P2622	Throttle Position Output Circuit High		
P2623	Injector Control Pressure Regulator Circuit/Open		
P2624	Injector Control Pressure Regulator Circuit Low		
P2625	Injector Control Pressure Regulator Circuit High		

DTC Number	DTC Naming	Location	Foot Note
P2626	O2 Sensor Pumping Current Trim Circuit/Open	Bank 1 Sensor 1	
P2627	O2 Sensor Pumping Current Trim Circuit Low	Bank 1 Sensor 1	
P2628	O2 Sensor Pumping Current Trim Circuit High	Bank 1 Sensor 1	
P2629	O2 Sensor Pumping Current Trim Circuit/Open	Bank 2 Sensor 1	
P262A	ISO/SAE Reserved		
P262B	ISO/SAE Reserved		
P262C	ISO/SAE Reserved		
P262D	ISO/SAE Reserved		
P262E	ISO/SAE Reserved		
P262F	ISO/SAE Reserved		
P2630	O2 Sensor Pumping Current Trim Circuit Low	Bank 2 Sensor 1	
P2631	O2 Sensor Pumping Current Trim Circuit High	Bank 2 Sensor 1	
P2632	Fuel Pump "B" Control Circuit /Open		
P2633	Fuel Pump "B" Control Circuit Low		
P2634	Fuel Pump "B" Control Circuit High		
P2635	Fuel Pump "A" Low Flow/Performance		
P2636	Fuel Pump "B" Low Flow/Performance		
P2637	Torque Management Feedback Signal "A"		
P2638	Torque Management Feedback Signal "A" Range/Performance		
P2639	Torque Management Feedback Signal "A" Low		
P263A	ISO/SAE Reserved		
P263B	ISO/SAE Reserved		
P263C	ISO/SAE Reserved		
P263D	ISO/SAE Reserved		
P263E	ISO/SAE Reserved		
P263F	ISO/SAE Reserved		
P2640	Torque Management Feedback Signal "A" High		
P2641	Torque Management Feedback Signal "B"		
P2642	Torque Management Feedback Signal "B" Range/Performance		
P2643	Torque Management Feedback Signal "B" Low		
P2644	Torque Management Feedback Signal "B" High		
P2645	"A" Rocker Arm Actuator Control Circuit/Open	Bank 1	e
P2646	"A" Rocker Arm Actuator System Performance/Stuck Off	Bank 1	e
P2647	"A" Rocker Arm Actuator System Stuck On	Bank 1	e
P2648	"A" Rocker Arm Actuator Control Circuit Low	Bank 1	e
P2649	"A" Rocker Arm Actuator Control Circuit High	Bank 1	e
P264A	"A" Rocker Arm Actuator Position Sensor Circuit	Bank 1	e
P264B	"A" Rocker Arm Actuator Position Sensor Circuit Range/Performance	Bank 1	e
P264C	"A" Rocker Arm Actuator Position Sensor Circuit Low	Bank 1	e
P264D	"A" Rocker Arm Actuator Position Sensor Circuit High	Bank 1	e
P264E	"A" Rocker Arm Actuator Position Sensor Circuit Intermittent/Erratic	Bank 1	e
P264F	ISO/SAE Reserved		
P2650	"B" Rocker Arm Actuator Control Circuit/Open	Bank 1	f
P2651	"B" Rocker Arm Actuator System Performance/Stuck Off	Bank 1	f
P2652	"B" Rocker Arm Actuator System Stuck On	Bank 1	f
P2653	"B" Rocker Arm Actuator Control Circuit Low	Bank 1	f
P2654	"B" Rocker Arm Actuator Control Circuit High	Bank 1	f
P2655	"A" Rocker Arm Actuator Control Circuit/Open	Bank 2	e
P2656	"A" Rocker Arm Actuator System Performance/Stuck Off	Bank 2	e
P2657	"A" Rocker Arm Actuator System Stuck On	Bank 2	e
P2658	"A" Rocker Arm Actuator Control Circuit Low	Bank 2	e
P2659	"A" Rocker Arm Actuator Control Circuit High	Bank 2	e

DTC Number	DTC Naming	Location	Foot Note
P265A	"B" Rocker Arm Actuator Position Sensor Circuit	Bank 1	f
P265B	"B" Rocker Arm Actuator Position Sensor Circuit Range/Performance	Bank 1	f
P265C	"B" Rocker Arm Actuator Position Sensor Circuit Low	Bank 1	f
P265D	"B" Rocker Arm Actuator Position Sensor Circuit High	Bank 1	f
P265E	"B" Rocker Arm Actuator Position Sensor Circuit Intermittent/Erratic	Bank 1	f
P265F	ISO/SAE Reserved		
P2660	"B" Rocker Arm Actuator Control Circuit/Open	Bank 2	f
P2661	"B" Rocker Arm Actuator System Performance/Stuck Off	Bank 2	f
P2662	"B" Rocker Arm Actuator System Stuck On	Bank 2	f
P2663	"B" Rocker Arm Actuator Control Circuit Low	Bank 2	f
P2664	"B" Rocker Arm Actuator Control Circuit High	Bank 2	f
P2665	Fuel Shutoff Valve "B" Control Circuit/Open		
P2666	Fuel Shutoff Valve "B" Control Circuit Low		
P2667	Fuel Shutoff Valve "B" Control Circuit High		
P2668	Fuel Mode Indicator Lamp Control Circuit		
P2669	Actuator Supply Voltage "B" Circuit /Open		
P266A	"A" Rocker Arm Actuator Position Sensor Circuit	Bank 2	e
P266B	"A" Rocker Arm Actuator Position Sensor Circuit Range/Performance	Bank 2	e
P266C	"A" Rocker Arm Actuator Position Sensor Circuit Low	Bank 2	e
P266D	"A" Rocker Arm Actuator Position Sensor Circuit High	Bank 2	e
P266E	"A" Rocker Arm Actuator Position Sensor Circuit Intermittent/Erratic	Bank 2	e
P266F	ISO/SAE Reserved		
P2670	Actuator Supply Voltage "B" Circuit Low		
P2671	Actuator Supply Voltage "B" Circuit High		
P2672	Injection Pump Timing Offset		
P2673	Injection Pump Timing Calibration Not Learned		
P2674	Injection Pump Fuel Calibration Not Learned		
P2675	Air Cleaner Inlet Control Circuit/Open		
P2676	Air Cleaner Inlet Control Circuit Low		
P2677	Air Cleaner Inlet Control Circuit High		
P2678	Coolant Degassing Valve Control Circuit/Open		
P2679	Coolant Degassing Valve Control Circuit Low		
P267A	"B" Rocker Arm Actuator Position Sensor Circuit	Bank 2	f
P267B	"B" Rocker Arm Actuator Position Sensor Circuit Range/Performance	Bank 2	f
P267C	"B" Rocker Arm Actuator Position Sensor Circuit Low	Bank 2	f
P267D	"B" Rocker Arm Actuator Position Sensor Circuit High	Bank 2	f
P267E	"B" Rocker Arm Actuator Position Sensor Circuit Intermittent/Erratic	Bank 2	f
P267F	ISO/SAE Reserved		
P2680	Coolant Degassing Valve Control Circuit High		
P2681	Engine Coolant Bypass Valve Control Circuit/Open		
P2682	Engine Coolant Bypass Valve Control Circuit Low		
P2683	Engine Coolant Bypass Valve Control Circuit High		
P2684	Actuator Supply Voltage "C" Circuit/Open		
P2685	Actuator Supply Voltage "C" Circuit Low		
P2686	Actuator Supply Voltage "C" Circuit High		
P2687	Fuel Supply Heater Control Circuit/Open		
P2688	Fuel Supply Heater Control Circuit Low		
P2689	Fuel Supply Heater Control Circuit High		
P268A	Fuel Injector Calibration Not Learned/Programmed		
P268B	High Pressure Fuel Pump Calibration Not Learned/Programmed		
P268C	Cylinder 1 Injector Data Incompatible		
P268D	Cylinder 2 Injector Data Incompatible		

DTC Number	DTC Naming	Location	Foot Note
P268E	Cylinder 3 Injector Data Incompatible		
P268F	Cylinder 4 Injector Data Incompatible		
P2690	Cylinder 5 Injector Data Incompatible		
P2691	Cylinder 6 Injector Data Incompatible		
P2692	Cylinder 7 Injector Data Incompatible		
P2693	Cylinder 8 Injector Data Incompatible		
P2694	Cylinder 9 Injector Data Incompatible		
P2695	Cylinder 10 Injector Data Incompatible		
P2696	Injector Data Incompatible		
P2697	Exhaust Aftertreatment Fuel Injector "A" Circuit/Open		
P2698	Exhaust Aftertreatment Fuel Injector "A" Performance		
P2699	Exhaust Aftertreatment Fuel Injector "A" Circuit Low		
P269A	Exhaust Aftertreatment Fuel Injector "A" Circuit High		
P269B	Exhaust Aftertreatment Glow Plug Control Circuit/Open		
P269C	Exhaust Aftertreatment Glow Plug Control Performance		
P269D	Exhaust Aftertreatment Glow Plug Control Circuit Low		
P269E	Exhaust Aftertreatment Glow Plug Control Circuit High		
P269F	Exhaust Aftertreatment Glow Plug Circuit/Open		
P26A0	Exhaust Aftertreatment Glow Plug Performance		
P26A1	Exhaust Aftertreatment Glow Plug Circuit Low		
P26A2	Exhaust Aftertreatment Glow Plug Circuit High		
P26A3 – P26FF	ISO/SAE Reserved		

7) For DTCs P2604 - P2609 also see P0540 - P0543

e) The "A" rocker arm actuator shall be either the "intake," "left," or "front" rocker arm actuator. Left/Right and Front/Rear are determined as if viewed from the driver's seating position. Bank 1 contains cylinder number one, Bank 2 is the opposite bank. Where only one rocker arm actuator is used for both conditions "A" and "B", use the DTCs for "A".

f) The "B" rocker arm actuator shall be either the "exhaust," "right," or "rear" rocker arm actuator. Left/Right and Front/Rear are determined as if viewed from the driver's seating position. Bank 1 contains cylinder number one, Bank 2 is the opposite bank. Where only one rocker arm actuator is used for both conditions "A" and "B", use the DTCs for "A".

TABLE D25 - P27XX TRANSMISSION

DTC Number	DTC Naming	Location	Foot Note
P2700	Transmission Friction Element "A" Apply Time Range/Performance		
P2701	Transmission Friction Element "B" Apply Time Range/Performance		
P2702	Transmission Friction Element "C" Apply Time Range/Performance		
P2703	Transmission Friction Element "D" Apply Time Range/Performance		
P2704	Transmission Friction Element "E" Apply Time Range/Performance		
P2705	Transmission Friction Element "F" Apply Time Range/Performance		
P2706	Shift Solenoid "F"		
P2707	Shift Solenoid "F" Performance/Stuck Off		
P2708	Shift Solenoid "F" Stuck On		
P2709	Shift Solenoid "F" Electrical		
P270A	ISO/SAE Reserved		
P270B	ISO/SAE Reserved		
P270C	ISO/SAE Reserved		
P270D	ISO/SAE Reserved		
P270E	ISO/SAE Reserved		
P270F	ISO/SAE Reserved		
P2710	Shift Solenoid "F" Intermittent		
P2711	Unexpected Mechanical Gear Disengagement		
P2712	Hydraulic Power Unit Leakage		
P2713	Pressure Control Solenoid "D"		

DTC Number	DTC Naming	Location	Foot Note
P2714	Pressure Control Solenoid "D" Performance/Stuck Off		
P2715	Pressure Control Solenoid "D" Stuck On		
P2716	Pressure Control Solenoid "D" Electrical		
P2717	Pressure Control Solenoid "D" Intermittent		
P2718	Pressure Control Solenoid "D" Control Circuit/Open		
P2719	Pressure Control Solenoid "D" Control Circuit Range/Performance		
P271A	ISO/SAE Reserved		
P271B	ISO/SAE Reserved		
P271C	ISO/SAE Reserved		
P271D	ISO/SAE Reserved		
P271E	ISO/SAE Reserved		
P271F	ISO/SAE Reserved		
P2720	Pressure Control Solenoid "D" Control Circuit Low		
P2721	Pressure Control Solenoid "D" Control Circuit High		
P2722	Pressure Control Solenoid "E"		
P2723	Pressure Control Solenoid "E" Performance/Stuck Off		
P2724	Pressure Control Solenoid "E" Stuck On		
P2725	Pressure Control Solenoid "E" Electrical		
P2726	Pressure Control Solenoid "E" Intermittent		
P2727	Pressure Control Solenoid "E" Control Circuit/Open		
P2728	Pressure Control Solenoid "E" Control Circuit Range/Performance		
P2729	Pressure Control Solenoid "E" Control Circuit Low		
P272A	ISO/SAE Reserved		
P272B	ISO/SAE Reserved		
P272C	ISO/SAE Reserved		
P272D	ISO/SAE Reserved		
P272E	ISO/SAE Reserved		
P272F	ISO/SAE Reserved		
P2730	Pressure Control Solenoid "E" Control Circuit High		
P2731	Pressure Control Solenoid "F"		
P2732	Pressure Control Solenoid "F" Performance/Stuck Off		
P2733	Pressure Control Solenoid "F" Stuck On		
P2734	Pressure Control Solenoid "F" Electrical		
P2735	Pressure Control Solenoid "F" Intermittent		
P2736	Pressure Control Solenoid "F" Control Circuit/Open		
P2737	Pressure Control Solenoid "F" Control Circuit Range/Performance		
P2738	Pressure Control Solenoid "F" Control Circuit Low		
P2739	Pressure Control Solenoid "F" Control Circuit High		
P273A	Transmission Friction Element "G" Apply Time Range/Performance		
P273B	Transmission Friction Element "H" Apply Time Range/Performance		
P273C	ISO/SAE Reserved		
P273D	ISO/SAE Reserved		
P273E	ISO/SAE Reserved		
P273F	ISO/SAE Reserved		
P2740	Transmission Fluid Temperature Sensor "B" Circuit"		
P2741	Transmission Fluid Temperature Sensor "B" Circuit Range/Performance		
P2742	Transmission Fluid Temperature Sensor "B" Circuit Low		
P2743	Transmission Fluid Temperature Sensor "B" Circuit High		
P2744	Transmission Fluid Temperature Sensor "B" Circuit Intermittent		
P2745	Intermediate Shaft Speed Sensor "B" Circuit		
P2746	Intermediate Shaft Speed Sensor "B" Circuit Range/Performance		
P2747	Intermediate Shaft Speed Sensor "B" Circuit No Signal		
P2748	Intermediate Shaft Speed Sensor "B" Circuit Intermittent		

DTC Number	DTC Naming	Location	Foot Note
P2749	Intermediate Shaft Speed Sensor "C" Circuit		
P274A	ISO/SAE Reserved		
P274B	ISO/SAE Reserved		
P274C	ISO/SAE Reserved		
P274D	ISO/SAE Reserved		
P274E	ISO/SAE Reserved		
P274F	ISO/SAE Reserved		
P2750	Intermediate Shaft Speed Sensor "C" Circuit Range/Performance		
P2751	Intermediate Shaft Speed Sensor "C" Circuit No Signal		
P2752	Intermediate Shaft Speed Sensor "C" Circuit Intermittent		
P2753	Transmission Fluid Cooler Control Circuit/Open		
P2754	Transmission Fluid Cooler Control Circuit Low		
P2755	Transmission Fluid Cooler Control Circuit High		
P2756	Torque Converter Clutch Pressure Control Solenoid		
P2757	Torque Converter Clutch Pressure Control Solenoid Control Circuit Performance/Stuck Off		
P2758	Torque Converter Clutch Pressure Control Solenoid Control Circuit Stuck On		
P2759	Torque Converter Clutch Pressure Control Solenoid Control Circuit Electrical		
P275A	ISO/SAE Reserved		
P275B	ISO/SAE Reserved		
P275C	ISO/SAE Reserved		
P275D	ISO/SAE Reserved		
P275E	ISO/SAE Reserved		
P275F	ISO/SAE Reserved		
P2760	Torque Converter Clutch Pressure Control Solenoid Control Circuit Intermittent		
P2761	Torque Converter Clutch Pressure Control Solenoid Control Circuit/Open		
P2762	Torque Converter Clutch Pressure Control Solenoid Control Circuit Range/Performance		
P2763	Torque Converter Clutch Pressure Control Solenoid Control Circuit High		
P2764	Torque Converter Clutch Pressure Control Solenoid Control Circuit Low		
P2765	Input/Turbine Speed Sensor "B" Circuit		
P2766	Input/Turbine Speed Sensor "B" Circuit Range/Performance		
P2767	Input/Turbine Speed Sensor "B" Circuit No Signal		
P2768	Input/Turbine Speed Sensor "B" Circuit Intermittent		
P2769	Torque Converter Clutch Circuit Low		
P276A	ISO/SAE Reserved		
P276B	ISO/SAE Reserved		
P276C	ISO/SAE Reserved		
P276D	ISO/SAE Reserved		
P276E	ISO/SAE Reserved		
P276F	ISO/SAE Reserved		
P2770	Torque Converter Clutch Circuit High		
P2771	Four Wheel Drive (4WD) Low Switch Circuit		
P2772	Four Wheel Drive (4WD) Low Switch Circuit Range/Performance		
P2773	Four Wheel Drive (4WD) Low Switch Circuit Low		
P2774	Four Wheel Drive (4WD) Low Switch Circuit High		
P2775	Upshift Switch Circuit Range/Performance		
P2776	Upshift Switch Circuit Low		
P2777	Upshift Switch Circuit High		

DTC Number	DTC Naming	Location	Foot Note
P2778	Upshift Switch Circuit Intermittent/Erratic		
P2779	Downshift Switch Circuit Range/Performance		
P277A	ISO/SAE Reserved		
P277B	ISO/SAE Reserved		
P277C	ISO/SAE Reserved		
P277D	ISO/SAE Reserved		
P277E	ISO/SAE Reserved		
P277F	ISO/SAE Reserved		
P2780	Downshift Switch Circuit Low		
P2781	Downshift Switch Circuit High		
P2782	Downshift Switch Circuit Intermittent/Erratic		
P2783	Torque Converter Temperature Too High		
P2784	Input/Turbine Speed Sensor "A"/"B" Correlation		
P2785	Clutch Actuator Temperature Too High		
P2786	Gear Shift Actuator Temperature Too High		
P2787	Clutch Temperature Too High		
P2788	Auto Shift Manual Adaptive Learning at Limit		
P2789	Clutch "A" Adaptive Learning at Limit		
P278A	Kick Down Switch Circuit		
P278B	Kick Down Switch Circuit Range/Performance		
P278C	Kick Down Switch Circuit Low		
P278D	Kick Down Switch Circuit High		
P278E	Kick Down Switch Circuit Intermittent/Erratic		
P278F	Clutch "B" Adaptive Learning at Limit		
P2790	Gate Select Direction Circuit		
P2791	Gate Select Direction Circuit Low		
P2792	Gate Select Direction Circuit High		
P2793	Gear Shift Direction Circuit		
P2794	Gear Shift Direction Circuit Low		
P2795	Gear Shift Direction Circuit High		
P2796	Auxiliary Transmission Fluid Pump Control Circuit/Open		
P2797	Auxiliary Transmission Fluid Pump Performance		
P2798	Auxiliary Transmission Fluid Pump Control Circuit Low		
P2799	Auxiliary Transmission Fluid Pump Control Circuit High		
P279A	Transfer Case Gear High Incorrect Ratio		
P279B	Transfer Case Gear Low Incorrect Ratio		
P279C	Transfer Case Gear Neutral Incorrect Ratio		
P279D	Four Wheel Drive (4WD) Range Signal Circuit		
P279E	Four Wheel Drive (4WD) Range Signal Circuit Range/Performance		
P279F	Four Wheel Drive (4WD) Range Signal Circuit Low		
P27A0	Four Wheel Drive (4WD) Range Signal Circuit High		
P27A1 – P27FF	ISO/SAE Reserved		

TABLE D26 - P28XX TRANSMISSION

DTC Number	DTC Naming	Location	Foot Note
P2800	Transmission Range Sensor "B" Circuit (PRNDL Input)		
P2801	Transmission Range Sensor "B" Circuit Range/Performance		
P2802	Transmission Range Sensor "B" Circuit Low		
P2803	Transmission Range Sensor "B" Circuit High		
P2804	Transmission Range Sensor "B" Circuit Intermittent		
P2805	Transmission Range Sensor "A"/"B" Correlation		
P2806	Transmission Range Sensor Alignment		
P2807	Pressure Control Solenoid "G"		
P2808	Pressure Control Solenoid "G" Performance/Stuck Off		
P2809	Pressure Control Solenoid "G" Stuck On		
P280A	Transmission Range Sensor "A" Circuit Not Learned		
P280B	Transmission Range Sensor "B" Circuit Not Learned		
P280C	ISO/SAE Reserved		
P280D	ISO/SAE Reserved		
P280E	ISO/SAE Reserved		
P280F	ISO/SAE Reserved		
P2810	Pressure Control Solenoid "G" Electrical		
P2811	Pressure Control Solenoid "G" Intermittent		
P2812	Pressure Control Solenoid "G" Control Circuit/Open		
P2813	Pressure Control Solenoid "G" Control Circuit Range/Performance		
P2814	Pressure Control Solenoid "G" Control Circuit Low		
P2815	Pressure Control Solenoid "G" Control Circuit High		
P2816	Pressure Control Solenoid "H"		
P2817	Pressure Control Solenoid "H" Performance/Stuck Off		
P2818	Pressure Control Solenoid "H" Stuck On		
P2819	Pressure Control Solenoid "H" Electrical		
P281A	Pressure Control Solenoid "H" Intermittent		
P281B	Pressure Control Solenoid "H" Control Circuit/Open		
P281C	Pressure Control Solenoid "H" Control Circuit Range/Performance		
P281D	Pressure Control Solenoid "H" Control Circuit Low		
P281E	Pressure Control Solenoid "H" Control Circuit High		
P281F	Pressure Control Solenoid "J"		
P2820	Pressure Control Solenoid "J" Performance/Stuck Off		
P2821	Pressure Control Solenoid "J" Stuck On		
P2822	Pressure Control Solenoid "J" Electrical		
P2823	Pressure Control Solenoid "J" Intermittent		
P2824	Pressure Control Solenoid "J" Control Circuit/Open		
P2825	Pressure Control Solenoid "J" Control Circuit Range/Performance		
P2826	Pressure Control Solenoid "J" Control Circuit Low		
P2827	Pressure Control Solenoid "J" Control Circuit High		
P2828	Pressure Control Solenoid "K"		
P2829	Pressure Control Solenoid "K" Performance/Stuck Off		
P282A	Pressure Control Solenoid "K" Stuck On		
P282B	Pressure Control Solenoid "K" Electrical		
P282C	Pressure Control Solenoid "K" Intermittent		
P282D	Pressure Control Solenoid "K" Control Circuit/Open		
P282E	Pressure Control Solenoid "K" Control Circuit Range/Performance		
P282F	Pressure Control Solenoid "K" Control Circuit Low		
P2830	Pressure Control Solenoid "K" Control Circuit High		
P2831	Shift Fork "A" Position Circuit		

DTC Number	DTC Naming	Location	Foot Note
P2832	Shift Fork "A" Position Circuit Range/Performance		
P2833	Shift Fork "A" Position Circuit Low		
P2834	Shift Fork "A" Position Circuit High		
P2835	Shift Fork "A" Position Circuit Intermittent		
P2836	Shift Fork "B" Position Circuit		
P2837	Shift Fork "B" Position Circuit Range/Performance		
P2838	Shift Fork "B" Position Circuit Low		
P2839	Shift Fork "B" Position Circuit High		
P283A	Shift Fork "B" Position Circuit Intermittent		
P283B	Shift Fork "C" Position Circuit		
P283C	Shift Fork "C" Position Circuit Range/Performance		
P283D	Shift Fork "C" Position Circuit Low		
P283E	Shift Fork "C" Position Circuit High		
P283F	Shift Fork "C" Position Circuit Intermittent		
P2840	Shift Fork "D" Position Circuit		
P2841	Shift Fork "D" Position Circuit Range/Performance		
P2842	Shift Fork "D" Position Circuit Low		
P2843	Shift Fork "D" Position Circuit High		
P2844	Shift Fork "D" Position Circuit Intermittent		
P2845	Shift Fork "A" Position Sensor Incorrect Neutral Position Indicated		
P2846	Shift Fork "B" Position Sensor Incorrect Neutral Position Indicated		
P2847	Shift Fork "C" Position Sensor Incorrect Neutral Position Indicated		
P2848	Shift Fork "D" Position Sensor Incorrect Neutral Position Indicated		
P2849	Shift Fork "A" Stuck		
P284A	Shift Fork "B" Stuck		
P284B	Shift Fork "C" Stuck		
P284C	Shift Fork "D" Stuck		
P284D	Shift Fork "A" Unrequested Movement		
P284E	Shift Fork "B" Unrequested Movement		
P284F	Shift Fork "C" Unrequested Movement		
P2850	Shift Fork "D" Unrequested Movement		
P2851	Shift Fork Position Sensor "A"/"B" Correlation		
P2852	Shift Fork Position Sensor "C"/"D" Correlation		
P2853	Clutch "A" Pressure Discharge Performance		
P2854	Clutch "B" Pressure Discharge Performance		
P2855	Clutch "A" Pressure Charge Performance		
P2856	Clutch "B" Pressure Charge Performance		
P2857	Clutch "A" Pressure Engagement Performance		
P2858	Clutch "B" Pressure Engagement Performance		
P2859	Clutch "A" Pressure Disengagement Performance		
P285A	Clutch "B" Pressure Disengagement Performance		
P285B – P28FF	ISO/SAE Reserved		

TABLE D27 - P29XX TRANSMISSION (ISO/SAE RESERVED)

DTC Number	DTC Naming	Location	Foot Note
P2900	ISO/SAE Reserved		

TABLE D28 - P2AXX FUEL AND AIR METERING AND AUXILIARY EMISSION CONTROLS

DTC Number	DTC Naming	Location	Foot Note
P2A00	O2 Sensor Circuit Range/Performance	Bank 1 Sensor 1	
P2A01	O2 Sensor Circuit Range/Performance	Bank 1 Sensor 2	
P2A02	O2 Sensor Circuit Range/Performance	Bank 1 Sensor 3	
P2A03	O2 Sensor Circuit Range/Performance	Bank 2 Sensor 1	
P2A04	O2 Sensor Circuit Range/Performance	Bank 2 Sensor 2	
P2A05	O2 Sensor Circuit Range/Performance	Bank 2 Sensor 3	
P2A06	O2 Sensor Negative Voltage	Bank 1 Sensor 1	
P2A07	O2 Sensor Negative Voltage	Bank 1 Sensor 2	
P2A08	O2 Sensor Negative Voltage	Bank 1 Sensor 3	
P2A09	O2 Sensor Negative Voltage	Bank 2 Sensor 1	
P2A0A	ISO/SAE Reserved		
P2A0B	ISO/SAE Reserved		
P2A0C	ISO/SAE Reserved		
P2A0D	ISO/SAE Reserved		
P2A0E	ISO/SAE Reserved		
P2A0F	ISO/SAE Reserved		
P2A10	O2 Sensor Negative Voltage	Bank 2 Sensor 2	
P2A11	O2 Sensor Negative Voltage	Bank 2 Sensor 3	
P2A12 – P2AFF	ISO/SAE Reserved		

TABLE D29 - P2BXX FUEL AND AIR METERING AND AUXILIARY EMISSION CONTROLS

DTC Number	DTC Naming	Location	Foot Note
P2B00 – P2BA6	ISO/SAE Reserved		
P2BA7	NOx Exceedence - Empty Reagent Tank		
P2BA8	NOx Exceedence - Interruption of Reagent Dosing Activity		
P2BA9	NOx Exceedence - Insufficient Reagent Quality		
P2BAA	NOx Exceedence - Low Reagent Consumption		
P2BAB	NOx Exceedence - Incorrect EGR Flow		
P2BAC	NOx Exceedence - Deactivation of EGR		
P2BAD	NOx Exceedence - Root Cause Unknown		
P2BAE	NOx Exceedence - NOx control monitoring system		
P2BAF – P2BFF	ISO/SAE Reserved		

TABLE D30 - P2CXX ISO/SAE RESERVED

DTC Number	DTC Naming	Location	Foot Note
P2C00	ISO/SAE Reserved		

TABLE D31 - P2DXX ISO/SAE RESERVED

DTC Number	DTC Naming	Location	Foot Note
P2D00	ISO/SAE Reserved		

TABLE D32 - P2EXX ISO/SAE RESERVED

DTC Number	DTC Naming	Location	Foot Note
P2E00	ISO/SAE Reserved		

TABLE D33 - P2FXX ISO/SAE RESERVED

DTC Number	DTC Naming	Location	Foot Note
P2F00	ISO/SAE Reserved		

TABLE D34 - P30XX MANUFACTURER CONTROLLED DTC

DTC Number	DTC Naming	Location	Foot Note
P3000	Manufacturer Controlled DTC		

TABLE D35 - P31XX MANUFACTURER CONTROLLED DTC

DTC Number	DTC Naming	Location	Foot Note
P3100	Manufacturer Controlled DTC		

TABLE D36 - P32XX MANUFACTURER CONTROLLED DTC

DTC Number	DTC Naming	Location	Foot Note
P3200	Manufacturer Controlled DTC		

TABLE D37 - P33XX MANUFACTURER CONTROLLED DTC

DTC Number	DTC Naming	Location	Foot Note
P3300	Manufacturer Controlled DTC		

TABLE D38 - P34XX CYLINDER DEACTIVATION

DTC Number	DTC Naming	Location	Foot Note
P3400	Cylinder Deactivation System	Bank 1	
P3401	Cylinder 1 Deactivation/Intake Valve Control Circuit/Open		
P3402	Cylinder 1 Deactivation/Intake Valve Control Circuit Performance		
P3403	Cylinder 1 Deactivation/Intake Valve Control Circuit Low		
P3404	Cylinder 1 Deactivation/Intake Valve Control Circuit High		
P3405	Cylinder 1 Exhaust Valve Control Circuit/Open		
P3406	Cylinder 1 Exhaust Valve Control Circuit Performance		
P3407	Cylinder 1 Exhaust Valve Control Circuit Low		
P3408	Cylinder 1 Exhaust Valve Control Circuit High		
P3409	Cylinder 2 Deactivation/Intake Valve Control Circuit/Open		
P340A	ISO/SAE Reserved		
P340B	ISO/SAE Reserved		
P340C	ISO/SAE Reserved		
P340D	ISO/SAE Reserved		
P340E	ISO/SAE Reserved		
P340F	ISO/SAE Reserved		
P3410	Cylinder 2 Deactivation/Intake Valve Control Circuit Performance		
P3411	Cylinder 2 Deactivation/Intake Valve Control Circuit Low		
P3412	Cylinder 2 Deactivation/Intake Valve Control Circuit High		
P3413	Cylinder 2 Exhaust Valve Control Circuit/Open		
P3414	Cylinder 2 Exhaust Valve Control Circuit Performance		
P3415	Cylinder 2 Exhaust Valve Control Circuit Low		
P3416	Cylinder 2 Exhaust Valve Control Circuit High		
P3417	Cylinder 3 Deactivation/Intake Valve Control Circuit/Open		

DTC Number	DTC Naming	Location	Foot Note
P3418	Cylinder 3 Deactivation/Intake Valve Control Circuit Performance		
P3419	Cylinder 3 Deactivation/Intake Valve Control Circuit Low		
P341A	ISO/SAE Reserved		
P341B	ISO/SAE Reserved		
P341C	ISO/SAE Reserved		
P341D	ISO/SAE Reserved		
P341E	ISO/SAE Reserved		
P341F	ISO/SAE Reserved		
P3420	Cylinder 3 Deactivation/Intake Valve Control Circuit High		
P3421	Cylinder 3 Exhaust Valve Control Circuit/Open		
P3422	Cylinder 3 Exhaust Valve Control Circuit Performance		
P3423	Cylinder 3 Exhaust Valve Control Circuit Low		
P3424	Cylinder 3 Exhaust Valve Control Circuit High		
P3425	Cylinder 4 Deactivation/Intake Valve Control Circuit/Open		
P3426	Cylinder 4 Deactivation/Intake Valve Control Circuit Performance		
P3427	Cylinder 4 Deactivation/Intake Valve Control Circuit Low		
P3428	Cylinder 4 Deactivation/Intake Valve Control Circuit High		
P3429	Cylinder 4 Exhaust Valve Control Circuit/Open		
P342A	ISO/SAE Reserved		
P342B	ISO/SAE Reserved		
P342C	ISO/SAE Reserved		
P342D	ISO/SAE Reserved		
P342E	ISO/SAE Reserved		
P342F	ISO/SAE Reserved		
P3430	Cylinder 4 Exhaust Valve Control Circuit Performance		
P3431	Cylinder 4 Exhaust Valve Control Circuit Low		
P3432	Cylinder 4 Exhaust Valve Control Circuit High		
P3433	Cylinder 5 Deactivation/Intake Valve Control Circuit/Open		
P3434	Cylinder 5 Deactivation/Intake Valve Control Circuit Performance		
P3435	Cylinder 5 Deactivation/Intake Valve Control Circuit Low		
P3436	Cylinder 5 Deactivation/Intake Valve Control Circuit High		
P3437	Cylinder 5 Exhaust Valve Control Circuit/Open		
P3438	Cylinder 5 Exhaust Valve Control Circuit Performance		
P3439	Cylinder 5 Exhaust Valve Control Circuit Low		
P343A	ISO/SAE Reserved		
P343B	ISO/SAE Reserved		
P343C	ISO/SAE Reserved		
P343D	ISO/SAE Reserved		
P343E	ISO/SAE Reserved		
P343F	ISO/SAE Reserved		
P3440	Cylinder 5 Exhaust Valve Control Circuit High		
P3441	Cylinder 6 Deactivation/Intake Valve Control Circuit/Open		
P3442	Cylinder 6 Deactivation/Intake Valve Control Circuit Performance		
P3443	Cylinder 6 Deactivation/Intake Valve Control Circuit Low		
P3444	Cylinder 6 Deactivation/Intake Valve Control Circuit High		
P3445	Cylinder 6 Exhaust Valve Control Circuit/Open		
P3446	Cylinder 6 Exhaust Valve Control Circuit Performance		
P3447	Cylinder 6 Exhaust Valve Control Circuit Low		
P3448	Cylinder 6 Exhaust Valve Control Circuit High		
P3449	Cylinder 7 Deactivation/Intake Valve Control Circuit/Open		
P344A	ISO/SAE Reserved		
P344B	ISO/SAE Reserved		

DTC Number	DTC Naming	Location	Foot Note
P344C	ISO/SAE Reserved		
P344D	ISO/SAE Reserved		
P344E	ISO/SAE Reserved		
P344F	ISO/SAE Reserved		
P3450	Cylinder 7 Deactivation/Intake Valve Control Circuit Performance		
P3451	Cylinder 7 Deactivation/Intake Valve Control Circuit Low		
P3452	Cylinder 7 Deactivation/Intake Valve Control Circuit High		
P3453	Cylinder 7 Exhaust Valve Control Circuit/Open		
P3454	Cylinder 7 Exhaust Valve Control Circuit Performance		
P3455	Cylinder 7 Exhaust Valve Control Circuit Low		
P3456	Cylinder 7 Exhaust Valve Control Circuit High		
P3457	Cylinder 8 Deactivation/Intake Valve Control Circuit/Open		
P3458	Cylinder 8 Deactivation/Intake Valve Control Circuit Performance		
P3459	Cylinder 8 Deactivation/Intake Valve Control Circuit Low		
P345A	ISO/SAE Reserved		
P345B	ISO/SAE Reserved		
P345C	ISO/SAE Reserved		
P345D	ISO/SAE Reserved		
P345E	ISO/SAE Reserved		
P345F	ISO/SAE Reserved		
P3460	Cylinder 8 Deactivation/Intake Valve Control Circuit High		
P3461	Cylinder 8 Exhaust Valve Control Circuit/Open		
P3462	Cylinder 8 Exhaust Valve Control Circuit Performance		
P3463	Cylinder 8 Exhaust Valve Control Circuit Low		
P3464	Cylinder 8 Exhaust Valve Control Circuit High		
P3465	Cylinder 9 Deactivation/Intake Valve Control Circuit/Open		
P3466	Cylinder 9 Deactivation/Intake Valve Control Circuit Performance		
P3467	Cylinder 9 Deactivation/Intake Valve Control Circuit Low		
P3468	Cylinder 9 Deactivation/Intake Valve Control Circuit High		
P3469	Cylinder 9 Exhaust Valve Control Circuit/Open		
P346A	ISO/SAE Reserved		
P346B	ISO/SAE Reserved		
P346C	ISO/SAE Reserved		
P346D	ISO/SAE Reserved		
P346E	ISO/SAE Reserved		
P346F	ISO/SAE Reserved		
P3470	Cylinder 9 Exhaust Valve Control Circuit Performance		
P3471	Cylinder 9 Exhaust Valve Control Circuit Low		
P3472	Cylinder 9 Exhaust Valve Control Circuit High		
P3473	Cylinder 10 Deactivation/Intake Valve Control Circuit/Open		
P3474	Cylinder 10 Deactivation/Intake Valve Control Circuit Performance		
P3475	Cylinder 10 Deactivation/Intake Valve Control Circuit Low		
P3476	Cylinder 10 Deactivation/Intake Valve Control Circuit High		
P3477	Cylinder 10 Exhaust Valve Control Circuit/Open		
P3478	Cylinder 10 Exhaust Valve Control Circuit Performance		
P3479	Cylinder 10 Exhaust Valve Control Circuit Low		
P347A	ISO/SAE Reserved		
P347B	ISO/SAE Reserved		
P347C	ISO/SAE Reserved		
P347D	ISO/SAE Reserved		
P347E	ISO/SAE Reserved		
P347F	ISO/SAE Reserved		

DTC Number	DTC Naming	Location	Foot Note
P3480	Cylinder 10 Exhaust Valve Control Circuit High		
P3481	Cylinder 11 Deactivation/Intake Valve Control Circuit/Open		
P3482	Cylinder 11 Deactivation/Intake Valve Control Circuit Performance		
P3483	Cylinder 11 Deactivation/Intake Valve Control Circuit Low		
P3484	Cylinder 11 Deactivation/Intake Valve Control Circuit High		
P3485	Cylinder 11 Exhaust Valve Control Circuit/Open		
P3486	Cylinder 11 Exhaust Valve Control Circuit Performance		
P3487	Cylinder 11 Exhaust Valve Control Circuit Low		
P3488	Cylinder 11 Exhaust Valve Control Circuit High		
P3489	Cylinder 12 Deactivation/Intake Valve Control Circuit/Open		
P348A	ISO/SAE Reserved		
P348B	ISO/SAE Reserved		
P348C	ISO/SAE Reserved		
P348D	ISO/SAE Reserved		
P348E	ISO/SAE Reserved		
P348F	ISO/SAE Reserved		
P3490	Cylinder 12 Deactivation/Intake Valve Control Circuit Performance		
P3491	Cylinder 12 Deactivation/Intake Valve Control Circuit Low		
P3492	Cylinder 12 Deactivation/Intake Valve Control Circuit High		
P3493	Cylinder 12 Exhaust Valve Control Circuit/Open		
P3494	Cylinder 12 Exhaust Valve Control Circuit Performance		
P3495	Cylinder 12 Exhaust Valve Control Circuit Low		
P3496	Cylinder 12 Exhaust Valve Control Circuit High		
P3497	Cylinder Deactivation System	Bank 2	
P3498 – P34FF	ISO/SAE Reserved		

TABLE D39 - P35XX ISO/SAE RESERVED

DTC Number	DTC Naming	Location	Foot Note
P3500	ISO/SAE Reserved		

TABLE D40 - P36XX ISO/SAE RESERVED

DTC Number	DTC Naming	Location	Foot Note
P3600	ISO/SAE Reserved		

TABLE D41 - P37XX ISO/SAE RESERVED

DTC Number	DTC Naming	Location	Foot Note
P3700	ISO/SAE Reserved		

TABLE D42 - P38XX ISO/SAE RESERVED

DTC Number	DTC Naming	Location	Foot Note
P3800	ISO/SAE Reserved		

TABLE D43 - P39XX ISO/SAE RESERVED

DTC Number	DTC Naming	Location	Foot Note
P3900	ISO/SAE Reserved		

TABLE D44 - P3AXX ISO/SAE RESERVED

DTC Number	DTC Naming	Location	Foot Note
P3A00	ISO/SAE Reserved		

TABLE D45 - P3BXX ISO/SAE RESERVED

DTC Number	DTC Naming	Location	Foot Note
P3B00	ISO/SAE Reserved		

TABLE D46 - P3CXX ISO/SAE RESERVED

DTC Number	DTC Naming	Location	Foot Note
P3C00	ISO/SAE Reserved		

TABLE D47 - P3DXX ISO/SAE RESERVED

DTC Number	DTC Naming	Location	Foot Note
P3D00	ISO/SAE Reserved		

TABLE D48 - P3EXX ISO/SAE RESERVED

DTC Number	DTC Naming	Location	Foot Note
P3E00	ISO/SAE Reserved		

TABLE D49 - P3FXX ISO/SAE RESERVED

DTC Number	DTC Naming	Location	Foot Note
P3F00	ISO/SAE Reserved		

APPENDIX E0 - NETWORK SYSTEMS

TABLE E1 - U00XX NETWORK ELECTRICAL

DTC Number	DTC Naming	Location	Foot Note
U0000	ISO/SAE Reserved		
U0001	High Speed CAN Communication Bus		
U0002	High Speed CAN Communication Bus Performance		
U0003	High Speed CAN Communication Bus (+) Open		
U0004	High Speed CAN Communication Bus (+) Low		
U0005	High Speed CAN Communication Bus (+) High		
U0006	High Speed CAN Communication Bus (-) Open		
U0007	High Speed CAN Communication Bus (-) Low		
U0008	High Speed CAN Communication Bus (-) High		
U0009	High Speed CAN Communication Bus (-) shorted to Bus (+)		
U000A	ISO/SAE Reserved		
U000B	ISO/SAE Reserved		
U000C	ISO/SAE Reserved		
U000D	ISO/SAE Reserved		
U000E	ISO/SAE Reserved		
U000F	ISO/SAE Reserved		
U0010	Medium Speed CAN Communication Bus		
U0011	Medium Speed CAN Communication Bus Performance		
U0012	Medium Speed CAN Communication Bus (+) Open		
U0013	Medium Speed CAN Communication Bus (+) Low		
U0014	Medium Speed CAN Communication Bus (+) High		
U0015	Medium Speed CAN Communication Bus (-) Open		
U0016	Medium Speed CAN Communication Bus (-) Low		
U0017	Medium Speed CAN Communication Bus (-) High		
U0018	Medium Speed CAN Communication Bus (-) shorted to Bus (+)		
U0019	Low Speed CAN Communication Bus		
U001A	ISO/SAE Reserved		
U001B	ISO/SAE Reserved		
U001C	ISO/SAE Reserved		
U001D	ISO/SAE Reserved		
U001E	ISO/SAE Reserved		
U001F	ISO/SAE Reserved		
U0020	Low Speed CAN Communication Bus Performance		
U0021	Low Speed CAN Communication Bus (+) Open		
U0022	Low Speed CAN Communication Bus (+) Low		
U0023	Low Speed CAN Communication Bus (+) High		
U0024	Low Speed CAN Communication Bus (-) Open		
U0025	Low Speed CAN Communication Bus (-) Low		
U0026	Low Speed CAN Communication Bus (-) High		
U0027	Low Speed CAN Communication Bus (-) shorted to Bus (+)		
U0028	Vehicle Communication Bus A		
U0029	Vehicle Communication Bus A Performance		
U002A	ISO/SAE Reserved		
U002B	ISO/SAE Reserved		
U002C	ISO/SAE Reserved		
U002D	ISO/SAE Reserved		
U002E	ISO/SAE Reserved		
U002F	ISO/SAE Reserved		

DTC Number	DTC Naming	Location	Foot Note
U0030	Vehicle Communication Bus A (+) Open		
U0031	Vehicle Communication Bus A (+) Low		
U0032	Vehicle Communication Bus A (+) High		
U0033	Vehicle Communication Bus A (-) Open		
U0034	Vehicle Communication Bus A (-) Low		
U0035	Vehicle Communication Bus A (-) High		
U0036	Vehicle Communication Bus A (-) shorted to Bus A (+)		
U0037	Vehicle Communication Bus B		
U0038	Vehicle Communication Bus B Performance		
U0039	Vehicle Communication Bus B (+) Open		
U003A	ISO/SAE Reserved		
U003B	ISO/SAE Reserved		
U003C	ISO/SAE Reserved		
U003D	ISO/SAE Reserved		
U003E	ISO/SAE Reserved		
U003F	ISO/SAE Reserved		
U0040	Vehicle Communication Bus B (+) Low		
U0041	Vehicle Communication Bus B (+) High		
U0042	Vehicle Communication Bus B (-) Open		
U0043	Vehicle Communication Bus B (-) Low		
U0044	Vehicle Communication Bus B (-) High		
U0045	Vehicle Communication Bus B (-) shorted to Bus B (+)		
U0046	Vehicle Communication Bus C		
U0047	Vehicle Communication Bus C Performance		
U0048	Vehicle Communication Bus C (+) Open		
U0049	Vehicle Communication Bus C (+) Low		
U004A	ISO/SAE Reserved		
U004B	ISO/SAE Reserved		
U004C	ISO/SAE Reserved		
U004D	ISO/SAE Reserved		
U004E	ISO/SAE Reserved		
U004F	ISO/SAE Reserved		
U0050	Vehicle Communication Bus C (+) High		
U0051	Vehicle Communication Bus C (-) Open		
U0052	Vehicle Communication Bus C (-) Low		
U0053	Vehicle Communication Bus C (-) High		
U0054	Vehicle Communication Bus C (-) shorted to Bus C (+)		
U0055	Vehicle Communication Bus D		
U0056	Vehicle Communication Bus D Performance		
U0057	Vehicle Communication Bus D (+) Open		
U0058	Vehicle Communication Bus D (+) Low		
U0059	Vehicle Communication Bus D (+) High		
U005A	ISO/SAE Reserved		
U005B	ISO/SAE Reserved		
U005C	ISO/SAE Reserved		
U005D	ISO/SAE Reserved		
U005E	ISO/SAE Reserved		
U005F	ISO/SAE Reserved		
U0060	Vehicle Communication Bus D (-) Open		
U0061	Vehicle Communication Bus D (-) Low		
U0062	Vehicle Communication Bus D (-) High		
U0063	Vehicle Communication Bus D (-) shorted to Bus D (+)		

DTC Number	DTC Naming	Location	Foot Note
U0064	Vehicle Communication Bus E		
U0065	Vehicle Communication Bus E Performance		
U0066	Vehicle Communication Bus E (+) Open		
U0067	Vehicle Communication Bus E (+) Low		
U0068	Vehicle Communication Bus E (+) High		
U0069	Vehicle Communication Bus E (-) Open		
U006A	ISO/SAE Reserved		
U006B	ISO/SAE Reserved		
U006C	ISO/SAE Reserved		
U006D	ISO/SAE Reserved		
U006E	ISO/SAE Reserved		
U006F	ISO/SAE Reserved		
U0070	Vehicle Communication Bus E (-) Low		
U0071	Vehicle Communication Bus E (-) High		
U0072	Vehicle Communication Bus E (-) shorted to Bus E (+)		
U0073	Control Module Communication Bus "A" Off		
U0074	Control Module Communication Bus "B" Off		
U0075 – U00FF	ISO/SAE Reserved		

TABLE E2 - U01XX NETWORK COMMUNICATION

DTC Number	DTC Naming	Location	Foot Note
U0100	Lost Communication With ECM/PCM "A"		
U0101	Lost Communication with TCM		
U0102	Lost Communication with Transfer Case Control Module		
U0103	Lost Communication With Gear Shift Control Module "A"		
U0104	Lost Communication With Cruise Control Module		
U0105	Lost Communication With Fuel Injector Control Module		
U0106	Lost Communication With Glow Plug Control Module		
U0107	Lost Communication With Throttle Actuator Control Module		
U0108	Lost Communication With Alternative Fuel Control Module		
U0109	Lost Communication With Fuel Pump Control Module		
U010A	Lost Communication With Exhaust Gas Recirculation Control Module "A"		
U010B	Lost Communication With Exhaust Gas Recirculation Control Module "B"		
U010C	Lost Communication With Turbocharger/Supercharger Control Module "A"		
U010D	Lost Communication With Turbocharger/Supercharger Control Module "B"		
U010E	Lost Communication With Reductant Control Module		
U010F	Lost Communication With Air Conditioning Control Module		
U0110	Lost Communication With Drive Motor Control Module "A"		
U0111	Lost Communication With Battery Energy Control Module "A"		
U0112	Lost Communication With Battery Energy Control Module "B"		
U0113	Lost Communication With Emissions Critical Control Information		
U0114	Lost Communication With Four-Wheel Drive Clutch Control Module		
U0115	Lost Communication With ECM/PCM "B"		
U0116	Lost Communication With Coolant Temperature Control Module		
U0117	Lost Communication With PTO Control Module		
U0118	Lost Communication With Fuel Additive Control Module		
U0119	Lost Communication With Fuel Cell Control Module		
U011A	Lost Communication With Exhaust Gas Sensor Module		

DTC Number	DTC Naming	Location	Foot Note
U011B	Lost Communication With Rocker Arm Control Module "A"		
U011C	Lost Communication With Rocker Arm Control Module "B"		
U011D	Lost Communication With All Wheel Drive Control Module		
U011E	ISO/SAE Reserved		
U011F	ISO/SAE Reserved		
U0120	Lost Communication With Starter / Generator Control Module		
U0121	Lost Communication With Anti-Lock Brake System (ABS) Control Module		
U0122	Lost Communication With Vehicle Dynamics Control Module		
U0123	Lost Communication With Yaw Rate Sensor Module		
U0124	Lost Communication With Lateral Acceleration Sensor Module		
U0125	Lost Communication With Multi-axis Acceleration Sensor Module		
U0126	Lost Communication With Steering Angle Sensor Module		
U0127	Lost Communication With Tire Pressure Monitor Module		
U0128	Lost Communication With Park Brake Control Module		
U0129	Lost Communication With Brake System Control Module		
U012A	ISO/SAE Reserved		
U012B	ISO/SAE Reserved		
U012C	ISO/SAE Reserved		
U012D	ISO/SAE Reserved		
U012E	ISO/SAE Reserved		
U012F	ISO/SAE Reserved		
U0130	Lost Communication With Steering Effort Control Module		
U0131	Lost Communication With Power Steering Control Module		
U0132	Lost Communication With Suspension Control Module "A"		
U0133	Lost Communication With Active Roll Control Module		
U0134	Lost Communication With Power Steering Control Module	Rear	
U0135	Lost Communication With Differential Control Module	Front	
U0136	Lost Communication With Differential Control Module	Rear	
U0137	Lost Communication With Trailer Brake Control Module		
U0138	Lost Communication With All Terrain Control Module		
U0139	Lost Communication With Suspension Control Module "B"		
U013A	ISO/SAE Reserved		
U013B	ISO/SAE Reserved		
U013C	ISO/SAE Reserved		
U013D	ISO/SAE Reserved		
U013E	ISO/SAE Reserved		
U013F	ISO/SAE Reserved		
U0140	Lost Communication With Body Control Module		
U0141	Lost Communication With Body Control Module "A"		
U0142	Lost Communication With Body Control Module "B"		
U0143	Lost Communication With Body Control Module "C"		
U0144	Lost Communication With Body Control Module "D"		
U0145	Lost Communication With Body Control Module "E"		
U0146	Lost Communication With Gateway "A"		
U0147	Lost Communication With Gateway "B"		
U0148	Lost Communication With Gateway "C"		
U0149	Lost Communication With Gateway "D"		
U014A	ISO/SAE Reserved		
U014B	ISO/SAE Reserved		
U014C	ISO/SAE Reserved		
U014D	ISO/SAE Reserved		

DTC Number	DTC Naming	Location	Foot Note
U014E	ISO/SAE Reserved		
U014F	ISO/SAE Reserved		
U0150	Lost Communication With Gateway "E"		
U0151	Lost Communication With Restraints Control Module		
U0152	Lost Communication With Side Restraints Control Module	Left	
U0153	Lost Communication With Side Restraints Control Module	Right	
U0154	Lost Communication With Restraints Occupant Classification System Module		
U0155	Lost Communication With Instrument Panel Cluster (IPC) Control Module		
U0156	Lost Communication With Information Center "A"		
U0157	Lost Communication With Information Center "B"		
U0158	Lost Communication With Head Up Display		
U0159	Lost Communication With Parking Assist Control Module "A"		
U015A	ISO/SAE Reserved		
U015B	ISO/SAE Reserved		
U015C	ISO/SAE Reserved		
U015D	ISO/SAE Reserved		
U015E	ISO/SAE Reserved		
U015F	ISO/SAE Reserved		
U0160	Lost Communication With Audible Alert Control Module		
U0161	Lost Communication With Compass Module		
U0162	Lost Communication With Navigation Display Module		
U0163	Lost Communication With Navigation Control Module		
U0164	Lost Communication With HVAC Control Module		
U0165	Lost Communication With HVAC Control Module	Rear	
U0166	Lost Communication With Auxiliary Heater Control Module		
U0167	Lost Communication With Vehicle Immobilizer Control Module		
U0168	Lost Communication With Vehicle Security Control Module		
U0169	Lost Communication With Sunroof Control Module		
U016A	Lost Communication With Global Positioning System Module		
U016B	ISO/SAE Reserved		
U016C	ISO/SAE Reserved		
U016D	ISO/SAE Reserved		
U016E	ISO/SAE Reserved		
U016F	ISO/SAE Reserved		
U0170	Lost Communication With "Restraints System Sensor A"		
U0171	Lost Communication With "Restraints System Sensor B"		
U0172	Lost Communication With "Restraints System Sensor C"		
U0173	Lost Communication With "Restraints System Sensor D"		
U0174	Lost Communication With "Restraints System Sensor E"		
U0175	Lost Communication With "Restraints System Sensor F"		
U0176	Lost Communication With "Restraints System Sensor G"		
U0177	Lost Communication With "Restraints System Sensor H"		
U0178	Lost Communication With "Restraints System Sensor I"		
U0179	Lost Communication With "Restraints System Sensor J"		
U017A	Lost Communication With "Restraints System Sensor K"		
U017B	Lost Communication With "Restraints System Sensor L"		
U017C	Lost Communication With "Restraints System Sensor M"		
U017D	Lost Communication With "Restraints System Sensor N"		
U017E	Lost Communication With Seatbelt Pretensioner Module "A"		
U017F	Lost Communication With Seatbelt Pretensioner Module "B"		
U0180	Lost Communication With Automatic Lighting Control Module		

DTC Number	DTC Naming	Location	Foot Note
U0181	Lost Communication With Headlamp Leveling Control Module		
U0182	Lost Communication With Lighting Control Module	Front	
U0183	Lost Communication With Lighting Control Module	Rear "A"	
U0184	Lost Communication With Radio		
U0185	Lost Communication With Antenna Control Module		
U0186	Lost Communication With Audio Amplifier "A"		
U0187	Lost Communication With Digital Disc Player/Changer Module "A"		
U0188	Lost Communication With Digital Disc Player/Changer Module "B"		
U0189	Lost Communication With Digital Disc Player/Changer Module "C"		
U018A	ISO/SAE Reserved		
U018B	ISO/SAE Reserved		
U018C	ISO/SAE Reserved		
U018D	ISO/SAE Reserved		
U018E	ISO/SAE Reserved		
U018F	ISO/SAE Reserved		
U0190	Lost Communication With Digital Disc Player/Changer Module "D"		
U0191	Lost Communication With Television		
U0192	Lost Communication With Personal Computer		
U0193	Lost Communication With "Digital Audio Control Module A"		
U0194	Lost Communication With "Digital Audio Control Module B"		
U0195	Lost Communication With Subscription Entertainment Receiver Module		
U0196	Lost Communication With Entertainment Control Module	Rear "A"	
U0197	Lost Communication With Telephone Control Module		
U0198	Lost Communication With Telematic Control Module		
U0199	Lost Communication With "Door Control Module A"		
U019A – U01FF	ISO/SAE Reserved		

TABLE E3 - U02XX NETWORK COMMUNICATION

DTC Number	DTC Naming	Location	Foot Note
U0200	Lost Communication With "Door Control Module B"		
U0201	Lost Communication With "Door Control Module C"		
U0202	Lost Communication With "Door Control Module D"		
U0203	Lost Communication With "Door Control Module E"		
U0204	Lost Communication With "Door Control Module F"		
U0205	Lost Communication With "Door Control Module G"		
U0206	Lost Communication With Folding Top Control Module		
U0207	Lost Communication With Moveable Roof Control Module		
U0208	Lost Communication With "Seat Control Module A"		
U0209	Lost Communication With "Seat Control Module B"		
U020A	ISO/SAE Reserved		
U020B	ISO/SAE Reserved		
U020C	ISO/SAE Reserved		
U020D	ISO/SAE Reserved		
U020E	ISO/SAE Reserved		
U020F	ISO/SAE Reserved		
U0210	Lost Communication With "Seat Control Module C"		
U0211	Lost Communication With "Seat Control Module D"		
U0212	Lost Communication With Steering Column Control Module		
U0213	Lost Communication With Mirror Control Module		
U0214	Lost Communication With Remote Function Actuation		

DTC Number	DTC Naming	Location	Foot Note
U0215	Lost Communication With "Door Switch A"		
U0216	Lost Communication With "Door Switch B"		
U0217	Lost Communication With "Door Switch C"		
U0218	Lost Communication With "Door Switch D"		
U0219	Lost Communication With "Door Switch E"		
U021A	ISO/SAE Reserved		
U021B	ISO/SAE Reserved		
U021C	ISO/SAE Reserved		
U021D	ISO/SAE Reserved		
U021E	ISO/SAE Reserved		
U021F	ISO/SAE Reserved		
U0220	Lost Communication With "Door Switch F"		
U0221	Lost Communication With "Door Switch G"		
U0222	Lost Communication With "Door Window Motor A"		
U0223	Lost Communication With "Door Window Motor B"		
U0224	Lost Communication With "Door Window Motor C"		
U0225	Lost Communication With "Door Window Motor D"		
U0226	Lost Communication With "Door Window Motor E"		
U0227	Lost Communication With "Door Window Motor F"		
U0228	Lost Communication With "Door Window Motor G"		
U0229	Lost Communication With Heated Steering Wheel Module		
U022A	ISO/SAE Reserved		
U022B	ISO/SAE Reserved		
U022C	ISO/SAE Reserved		
U022D	ISO/SAE Reserved		
U022E	ISO/SAE Reserved		
U022F	ISO/SAE Reserved		
U0230	Lost Communication With Rear Gate Module		
U0231	Lost Communication With Rain Sensing Module		
U0232	Lost Communication With Side Obstacle Detection Control Module	Left	
U0233	Lost Communication With Side Obstacle Detection Control Module	Right	
U0234	Lost Communication With Convenience Recall Module		
U0235	Lost Communication With Cruise Control Front Distance Range Sensor	Single Sensor or Center	
U0236	Lost Communication With Column Lock Module		
U0237	Lost Communication With "Digital Audio Control Module C"		
U0238	Lost Communication With "Digital Audio Control Module D"		
U0239	Lost Communication With Entrapment Control Module "A"		
U023A	Lost Communication With Image Processing Module "A"		
U023B	Lost Communication With Image Processing Module "B"		
U023C	Lost Communication With Image Processing Module "C"		
U023D	Lost Communication With Cruise Control Front Distance Range Sensor	Left	
U023E	Lost Communication With Cruise Control Front Distance Range Sensor	Right	
U023F	ISO/SAE Reserved		
U0240	Lost Communication With Entrapment Control Module "B"		
U0241	Lost Communication With Headlamp Control Module "A"		
U0242	Lost Communication With Headlamp Control Module "B"		
U0243	Lost Communication With Parking Assist Control Module "B"		
U0244	Lost Communication With Running Board Control Module "A"		
U0245	Lost Communication With Entertainment Control Module	Front	
U0246	Lost Communication With "Seat Control Module E"		

DTC Number	DTC Naming	Location	Foot Note
U0247	Lost Communication With "Seat Control Module F"		
U0248	Lost Communication With Remote Accessory Module		
U0249	Lost Communication With Entertainment Control Module	Rear "B"	
U024A	Lost Communication With Interior Lighting Control Module		
U024B	ISO/SAE Reserved		
U024C	ISO/SAE Reserved		
U024D	ISO/SAE Reserved		
U024E	ISO/SAE Reserved		
U024F	ISO/SAE Reserved		
U0250	Lost Communication With Impact Classification System Module		
U0251	Lost Communication With Running Board Control Module "B"		
U0252	Lost Communication With Lighting Control Module	Rear "B"	
U0253	Lost Communication With Accessory Protocol Interface Module		
U0254	Lost Communication With Remote Start Module		
U0255	Lost Communication With Front Display Interface Module		
U0256	Lost Communication With Front Controls Interface Module "A"		
U0257	Lost Communication With Front Controls/Display Interface Module		
U0258	Lost Communication With Radio Transceiver		
U0259	Lost Communication With Special Purpose Vehicle Control Module "A"		
U025A	Lost Communication With Special Purpose Vehicle Control Module "B"		
U025B	Lost Communication With Special Purpose Vehicle Control Module "C"		
U025C	Lost Communication With Special Purpose Vehicle Control Module "D"		
U025D	Lost Communication With Front Controls Interface Module "B"		
U025E	ISO/SAE Reserved		
U025F	ISO/SAE Reserved		
U0260	Lost Communication With Seat Control Switch Module "A"		
U0261	Lost Communication With Seat Control Switch Module "B"		
U0262	Lost Communication With Audio Amplifier "B"		
U0263	Lost Communication With Speech Recognition Module		
U0264	Lost Communication With Camera Module	Rear	
U0265	ISO/SAE Reserved		
U0266	ISO/SAE Reserved		
U0267	ISO/SAE Reserved		
U0268	ISO/SAE Reserved		
U0269	ISO/SAE Reserved		
U026A	ISO/SAE Reserved		
U026B	ISO/SAE Reserved		
U026C	ISO/SAE Reserved		
U026D	ISO/SAE Reserved		
U026E	ISO/SAE Reserved		
U026F	ISO/SAE Reserved		
U0270	ISO/SAE Reserved		
U0271	ISO/SAE Reserved		
U0272	ISO/SAE Reserved		
U0273	ISO/SAE Reserved		
U0274	ISO/SAE Reserved		
U0275	ISO/SAE Reserved		
U0276	ISO/SAE Reserved		
U0277	ISO/SAE Reserved		

DTC Number	DTC Naming	Location	Foot Note
U0278	ISO/SAE Reserved		
U0279	ISO/SAE Reserved		
U027A	ISO/SAE Reserved		
U027B	ISO/SAE Reserved		
U027C	ISO/SAE Reserved		
U027D	ISO/SAE Reserved		
U027E	ISO/SAE Reserved		
U027F	ISO/SAE Reserved		
U0280	ISO/SAE Reserved		
U0281	ISO/SAE Reserved		
U0282	ISO/SAE Reserved		
U0283	ISO/SAE Reserved		
U0284	ISO/SAE Reserved		
U0285	ISO/SAE Reserved		
U0286	Lost Communication With Radiator Anti Tamper Device		
U0287	Lost Communication With Transmission Fluid Pump Module		
U0288	Lost Communication With DC to AC Converter Control Module "A"		
U0289	Lost Communication With DC to AC Converter Control Module "B"		
U028A	ISO/SAE Reserved		
U028B	ISO/SAE Reserved		
U028C	ISO/SAE Reserved		
U028D	ISO/SAE Reserved		
U028E	ISO/SAE Reserved		
U028F	ISO/SAE Reserved		
U0290	ISO/SAE Reserved		
U0291	Lost Communication With Gear Shift Control Module "B"		
U0292	Lost Communication With Drive Motor Control Module "B"		
U0293	Lost Communication With Hybrid Powertrain Control Module		
U0294	Lost Communication With Powertrain Control Monitor Module		
U0295	Lost Communication With AC to AC Converter Control Module		
U0296	Lost Communication With AC to DC Converter Control Module "A"		
U0297	Lost Communication With AC to DC Converter Control Module "B"		
U0298	Lost Communication With DC to DC Converter Control Module "A"		
U0299	Lost Communication With DC to DC Converter Control Module "B"		
U029A	Lost Communication With Hybrid Battery Pack Sensor Module		
U029B	Lost Communication With Drive Motor Control Module "C"		
U029C	Lost Communication With Drive Motor Control Module "D"		
U029D	Lost Communication With NOX Sensor "A"		
U029E	Lost Communication With NOX Sensor "B"		
U029F – U02FF	ISO/SAE Reserved		

TABLE E4 - U03XX NETWORK SOFTWARE

DTC Number	DTC Naming	Location	Foot Note
U0300	Internal Control Module Software Incompatibility		
U0301	Software Incompatibility With ECM/PCM		
U0302	Software Incompatibility With Transmission Control Module		
U0303	Software Incompatibility With Transfer Case Control Module		
U0304	Software Incompatibility With Gear Shift Control Module "A"		
U0305	Software Incompatibility With Cruise Control Module		
U0306	Software Incompatibility With Fuel Injector Control Module		
U0307	Software Incompatibility With Glow Plug Control Module		
U0308	Software Incompatibility With Throttle Actuator Control Module		
U0309	Software Incompatibility With Alternative Fuel Control Module		
U030A	ISO/SAE Reserved		
U030B	ISO/SAE Reserved		
U030C	ISO/SAE Reserved		
U030D	ISO/SAE Reserved		
U030E	ISO/SAE Reserved		
U030F	ISO/SAE Reserved		
U0310	Software Incompatibility With Fuel Pump Control Module		
U0311	Software Incompatibility With Drive Motor Control Module		
U0312	Software Incompatibility With Battery Energy Control Module A		
U0313	Software Incompatibility With Battery Energy Control Module B		
U0314	Software Incompatibility With Four-Wheel Drive Clutch Control Module		
U0315	Software Incompatibility With Anti-Lock Brake System Control Module		
U0316	Software Incompatibility With Vehicle Dynamics Control Module		
U0317	Software Incompatibility With Park Brake Control Module		
U0318	Software Incompatibility With Brake System Control Module		
U0319	Software Incompatibility With Steering Effort Control Module		
U031A	ISO/SAE Reserved		
U031B	ISO/SAE Reserved		
U031C	ISO/SAE Reserved		
U031D	ISO/SAE Reserved		
U031E	ISO/SAE Reserved		
U031F	ISO/SAE Reserved		
U0320	Software Incompatibility With Power Steering Control Module		
U0321	Software Incompatibility With Suspension Control Module "A"		
U0322	Software Incompatibility With Body Control Module		
U0323	Software Incompatibility With Instrument Panel Control Module		
U0324	Software Incompatibility With HVAC Control Module		
U0325	Software Incompatibility With Auxiliary Heater Control Module		
U0326	Software Incompatibility With Vehicle Immobilizer Control Module		
U0327	Software Incompatibility With Vehicle Security Control Module		
U0328	Software Incompatibility With Steering Angle Sensor Module		
U0329	Software Incompatibility With Steering Column Control Module		
U032A	ISO/SAE Reserved		
U032B	ISO/SAE Reserved		
U032C	ISO/SAE Reserved		
U032D	ISO/SAE Reserved		
U032E	ISO/SAE Reserved		
U032F	ISO/SAE Reserved		
U0330	Software Incompatibility With Tire Pressure Monitor Module		

DTC Number	DTC Naming	Location	Foot Note
U0331	Software Incompatibility With Body Control Module "A"		
U0332	Software Incompatibility With Multi-axis Acceleration Sensor Module		
U0333	Software Incompatibility With Gear Shift Control Module "B"		
U0334	Software Incompatibility With Radio		
U0335	Software Incompatibility With Hybrid Battery Pack Sensor Module		
U0336	Software Incompatibility with Restraints Control Module		
U0337 – U03FF	ISO/SAE Reserved		

TABLE E5 - U04XX NETWORK DATA

DTC Number	DTC Naming	Location	Foot Note
U0400	Invalid Data Received		
U0401	Invalid Data Received From ECM/PCM "A"		
U0402	Invalid Data Received From TCM		
U0403	Invalid Data Received From Transfer Case Control Module		
U0404	Invalid Data Received From Gear Shift Control Module "A"		
U0405	Invalid Data Received From Cruise Control Module		
U0406	Invalid Data Received From Fuel Injector Control Module		
U0407	Invalid Data Received From Glow Plug Control Module		
U0408	Invalid Data Received From Throttle Actuator Control Module		
U0409	Invalid Data Received From Alternative Fuel Control Module		
U040A	Invalid Data Received From Air Conditioning Control Module		
U040B	Invalid Data Received From Exhaust Gas Recirculation Control Module "A"		
U040C	Invalid Data Received From Exhaust Gas Recirculation Control Module "B"		
U040D	Invalid Data Received From Turbocharger/Supercharger Control Module "A"		
U040E	Invalid Data Received From Turbocharger/Supercharger Control Module "B"		
U040F	Invalid Data Received From Reductant Control Module		
U0410	Invalid Data Received From Fuel Pump Control Module		
U0411	Invalid Data Received From Drive Motor Control Module "A"		
U0412	Invalid Data Received From Battery Energy Control Module "A"		
U0413	Invalid Data Received From Battery Energy Control Module "B"		
U0414	Invalid Data Received From Four-Wheel Drive Clutch Control Module		
U0415	Invalid Data Received From Anti-Lock Brake System (ABS) Control Module		
U0416	Invalid Data Received From Vehicle Dynamics Control Module		
U0417	Invalid Data Received From Park Brake Control Module		
U0418	Invalid Data Received From Brake System Control Module		
U0419	Invalid Data Received From Steering Effort Control Module		
U041A	ISO/SAE Reserved		
U041B	Invalid Data Received From Exhaust Gas Sensor Module		
U041C	Invalid Data Received From Rocker Arm Control Module "A"		
U041D	Invalid Data Received From Rocker Arm Control Module "B"		
U041E	Invalid Data Received From All Wheel Drive Control Module		
U041F	ISO/SAE Reserved		
U0420	Invalid Data Received From Power Steering Control Module		
U0421	Invalid Data Received From Suspension Control Module "A"		
U0422	Invalid Data Received From Body Control Module		
U0423	Invalid Data Received From Instrument Panel Cluster Control		

DTC Number	DTC Naming	Location	Foot Note
	Module		
U0424	Invalid Data Received From HVAC Control Module		
U0425	Invalid Data Received From Auxiliary Heater Control Module		
U0426	Invalid Data Received From Vehicle Immobilizer Control Module		
U0427	Invalid Data Received From Vehicle Security Control Module		
U0428	Invalid Data Received From Steering Angle Sensor Module		
U0429	Invalid Data Received From Steering Column Control Module		
U042A	ISO/SAE Reserved		
U042B	ISO/SAE Reserved		
U042C	ISO/SAE Reserved		
U042D	ISO/SAE Reserved		
U042E	ISO/SAE Reserved		
U042F	ISO/SAE Reserved		
U0430	Invalid Data Received From Tire Pressure Monitor Module		
U0431	Invalid Data Received From Body Control Module "A"		
U0432	Invalid Data Received From Multi-axis Acceleration Sensor Module		
U0433	Invalid Data Received From Cruise Control Front Distance Range Sensor	Single Sensor or Center	
U0434	Invalid Data Received From Active Roll Control Module		
U0435	Invalid Data Received From Power Steering Control Module	Rear	
U0436	Invalid Data Received From Differential Control Module	Front	
U0437	Invalid Data Received From Differential Control Module	Rear	
U0438	Invalid Data Received From Trailer Brake Control Module		
U0439	Invalid Data Received From All Terrain Control Module		
U043A	Invalid Data Received From Suspension Control Module "B"		
U043B	Invalid Data Received From Cruise Control Front Distance Range Sensor	Left	
U043C	Invalid Data Received From Cruise Control Front Distance Range Sensor	Right	
U043D	ISO/SAE Reserved		
U043E	ISO/SAE Reserved		
U043F	ISO/SAE Reserved		
U0440	ISO/SAE Reserved		
U0441	Invalid Data Received From Emissions Critical Control Information		
U0442	Invalid Data Received From ECM/PCM "B"		
U0443	Invalid Data Received From Body Control Module "B"		
U0444	Invalid Data Received From Body Control Module "C"		
U0445	Invalid Data Received From Body Control Module "D"		
U0446	Invalid Data Received From Body Control Module "E"		
U0447	Invalid Data Received From Gateway "A"		
U0448	Invalid Data Received From Gateway "B"		
U0449	Invalid Data Received From Gateway "C"		
U044A	Invalid Data Received From Gateway "D"		
U044B	ISO/SAE Reserved		
U044C	ISO/SAE Reserved		
U044D	ISO/SAE Reserved		
U044E	ISO/SAE Reserved		
U044F	ISO/SAE Reserved		
U0450	ISO/SAE Reserved		
U0451	Invalid Data Received From Gateway "E"		
U0452	Invalid Data Received From Restraints Control Module		
U0453	Invalid Data Received From Side Restraints Control Module	Left	
U0454	Invalid Data Received From Side Restraints Control Module	Right	

DTC Number	DTC Naming	Location	Foot Note
U0455	Invalid Data Received From Restraints Occupant Classification System Module		
U0456	Invalid Data Received From Coolant Temperature Control Module		
U0457	Invalid Data Received From Information Center "A"		
U0458	Invalid Data Received From Information Center "B"		
U0459	Invalid Data Received From Head Up Display		
U045A	Invalid Data Received From Parking Assist Control Module "A"		
U045B	ISO/SAE Reserved		
U045C	ISO/SAE Reserved		
U045D	ISO/SAE Reserved		
U045E	ISO/SAE Reserved		
U045F	ISO/SAE Reserved		
U0460	ISO/SAE Reserved		
U0461	Invalid Data Received From Audible Alert Control Module		
U0462	Invalid Data Received From Compass Module		
U0463	Invalid Data Received From Navigation Display Module		
U0464	Invalid Data Received From Navigation Control Module		
U0465	Invalid Data Received From PTO Control Module		
U0466	Invalid Data Received From HVAC Control Module	Rear	
U0467	Invalid Data Received From Fuel Additive Control Module		
U0468	Invalid Data Received From Fuel Cell Control Module		
U0469	Invalid Data Received From Starter / Generator Control Module		
U046A	Invalid Data Received From Sunroof Control Module		
U046B	Invalid Data Received From Global Positioning System Module		
U046C	ISO/SAE Reserved		
U046D	ISO/SAE Reserved		
U046E	ISO/SAE Reserved		
U046F	ISO/SAE Reserved		
U0470	ISO/SAE Reserved		
U0471	Invalid Data Received From "Restraints System Sensor A"		
U0472	Invalid Data Received From "Restraints System Sensor B"		
U0473	Invalid Data Received From "Restraints System Sensor C"		
U0474	Invalid Data Received From "Restraints System Sensor D"		
U0475	Invalid Data Received From "Restraints System Sensor E"		
U0476	Invalid Data Received From "Restraints System Sensor F"		
U0477	Invalid Data Received From "Restraints System Sensor G"		
U0478	Invalid Data Received From "Restraints System Sensor H"		
U0479	Invalid Data Received From "Restraints System Sensor I"		
U047A	Invalid Data Received From "Restraints System Sensor J"		
U047B	Invalid Data Received From "Restraints System Sensor K"		
U047C	Invalid Data Received From "Restraints System Sensor L"		
U047D	Invalid Data Received From "Restraints System Sensor M"		
U047E	Invalid Data Received From "Restraints System Sensor N"		
U047F	Invalid Data Received From Seatbelt Pretensioner Module "A"		
U0480	Invalid Data Received From Seatbelt Pretensioner Module "B"		
U0481	Invalid Data Received From Automatic Lighting Control Module		
U0482	Invalid Data Received From Headlamp Leveling Control Module		
U0483	Invalid Data Received From Lighting Control Module	Front	
U0484	Invalid Data Received From Lighting Control Module	Rear "A"	
U0485	Invalid Data Received From Radio		
U0486	Invalid Data Received From Antenna Control Module		
U0487	Invalid Data Received From Audio Amplifier "A"		

DTC Number	DTC Naming	Location	Foot Note
U0488	Invalid Data Received From Digital Disc Player/Changer Module "A"		
U0489	Invalid Data Received From Digital Disc Player/Changer Module "B"		
U048A	Invalid Data Received From Digital Disc Player/Changer Module "C"		
U048B	ISO/SAE Reserved		
U048C	ISO/SAE Reserved		
U048D	ISO/SAE Reserved		
U048E	ISO/SAE Reserved		
U048F	ISO/SAE Reserved		
U0490	ISO/SAE Reserved		
U0491	Invalid Data Received From Digital Disc Player/Changer Module "D"		
U0492	Invalid Data Received From Television		
U0493	Invalid Data Received From Personal Computer		
U0494	Invalid Data Received From "Digital Audio Control Module A"		
U0495	Invalid Data Received From "Digital Audio Control Module B"		
U0496	Invalid Data Received From Subscription Entertainment Receiver Module		
U0497	Invalid Data Received From Entertainment Control Module	Rear "A"	
U0498	Invalid Data Received From Telephone Control Module		
U0499	Invalid Data Received From Telematic Control Module		
U049A	Invalid Data Received From "Door Control Module A"		
U049B – U04FF	ISO/SAE Reserved		

TABLE E6 - U05XX NETWORK DATA

DTC Number	DTC Naming	Location	Foot Note
U0500	ISO/SAE Reserved		
U0501	Invalid Data Received From "Door Control Module B"		
U0502	Invalid Data Received From "Door Control Module C"		
U0503	Invalid Data Received From "Door Control Module D"		
U0504	Invalid Data Received From "Door Control Module E"		
U0505	Invalid Data Received From "Door Control Module F"		
U0506	Invalid Data Received From "Door Control Module G"		
U0507	Invalid Data Received From Folding Top Control Module		
U0508	Invalid Data Received From Moveable Roof Control Module		
U0509	Invalid Data Received From "Seat Control Module A"		
U050A	Invalid Data Received From "Seat Control Module B"		
U050B	ISO/SAE Reserved		
U050C	ISO/SAE Reserved		
U050D	ISO/SAE Reserved		
U050E	ISO/SAE Reserved		
U050F	ISO/SAE Reserved		
U0510	ISO/SAE Reserved		
U0511	Invalid Data Received From "Seat Control Module C"		
U0512	Invalid Data Received From "Seat Control Module D"		
U0513	Invalid Data Received From Yaw Rate Sensor Module		
U0514	Invalid Data Received From Mirror Control Module		
U0515	Invalid Data Received From Remote Function Actuation		
U0516	Invalid Data Received From "Door Switch A"		
U0517	Invalid Data Received From "Door Switch B"		

DTC Number	DTC Naming	Location	Foot Note
U0518	Invalid Data Received From "Door Switch C"		
U0519	Invalid Data Received From "Door Switch D"		
U051A	Invalid Data Received From "Door Switch E"		
U051B	ISO/SAE Reserved		
U051C	ISO/SAE Reserved		
U051D	ISO/SAE Reserved		
U051E	ISO/SAE Reserved		
U051F	ISO/SAE Reserved		
U0520	ISO/SAE Reserved		
U0521	Invalid Data Received From "Door Switch F"		
U0522	Invalid Data Received From "Door Switch G"		
U0523	Invalid Data Received From "Door Window Motor A"		
U0524	Invalid Data Received From "Door Window Motor B"		
U0525	Invalid Data Received From "Door Window Motor C"		
U0526	Invalid Data Received From "Door Window Motor D"		
U0527	Invalid Data Received From "Door Window Motor E"		
U0528	Invalid Data Received From "Door Window Motor F"		
U0529	Invalid Data Received From "Door Window Motor G"		
U052A	Invalid Data Received From Heated Steering Wheel Module		
U052B	ISO/SAE Reserved		
U052C	ISO/SAE Reserved		
U052D	ISO/SAE Reserved		
U052E	ISO/SAE Reserved		
U052F	ISO/SAE Reserved		
U0530	ISO/SAE Reserved		
U0531	Invalid Data Received From Rear Gate Module		
U0532	Invalid Data Received From Rain Sensing Module		
U0533	Invalid Data Received From Side Obstacle Detection Control Module	Left	
U0534	Invalid Data Received From Side Obstacle Detection Control Module	Right	
U0535	Invalid Data Received From Convenience Recall Module		
U0536	Invalid Data Received From Lateral Acceleration Sensor Module		
U0537	Invalid Data Received From Column Lock Module		
U0538	Invalid Data Received From "Digital Audio Control Module C"		
U0539	Invalid Data Received From "Digital Audio Control Module D"		
U053A	Invalid Data Received From Entrapment Control Module "A"		
U053B	Invalid Data Received From Image Processing Module "A"		
U053C	Invalid Data Received From Image Processing Module "B"		
U053D	Invalid Data Received From Image Processing Module "C"		
U053E	ISO/SAE Reserved		
U053F	ISO/SAE Reserved		
U0540	ISO/SAE Reserved		
U0541	Invalid Data Received From Entrapment Control Module "B"		
U0542	Invalid Data Received From Headlamp Control Module "A"		
U0543	Invalid Data Received From Headlamp Control Module "B"		
U0544	Invalid Data Received From Parking Assist Control Module "B"		
U0545	Invalid Data Received From Running Board Control Module		
U0546	Invalid Data Received From Entertainment Control Module	Front	
U0547	Invalid Data Received From "Seat Control Module E"		
U0548	Invalid Data Received From "Seat Control Module F"		
U0549	Invalid Data Received From Remote Accessory Module		
U054A	Invalid Data Received From Entertainment Control Module	Rear "B"	
U054B	Invalid Data Received From Interior Lighting Control Module		

DTC Number	DTC Naming	Location	Foot Note
U054C	ISO/SAE Reserved		
U054D	ISO/SAE Reserved		
U054E	ISO/SAE Reserved		
U054F	ISO/SAE Reserved		
U0550	ISO/SAE Reserved		
U0551	Invalid Data Received From Impact Classification System Module		
U0552	Invalid Data Received From Running Board Control Module "B"		
U0553	Invalid Data Received From Lighting Control Module	Rear "B"	
U0554	Invalid Data Received From Accessory Protocol Interface Module		
U0555	Invalid Data Received From Remote Start Module		
U0556	Invalid Data Received From Front Display Interface Module		
U0557	Invalid Data Received From Front Controls Interface Module "A"		
U0558	Invalid Data Received From Front Controls/Display Interface Module		
U0559	Invalid Data Received From Radio Transceiver		
U055A	Invalid Data Received From Special Purpose Vehicle Control Module "A"		
U055B	Invalid Data Received From Special Purpose Vehicle Control Module "B"		
U055C	Invalid Data Received From Special Purpose Vehicle Control Module "C"		
U055D	Invalid Data Received From Special Purpose Vehicle Control Module "D"		
U055E	Invalid Data Received From Front Controls Interface Module "B"		
U055F	ISO/SAE Reserved		
U0560	ISO/SAE Reserved		
U0561	Invalid Data Received From Seat Control Switch Module "A"		
U0562	Invalid Data Received From Seat Control Switch Module "B"		
U0563	Invalid Data Received From Audio Amplifier "B"		
U0564	Invalid Data Received From Speech Recognition Module		
U0565	Invalid Data Received From Camera Module	Rear	
U0566	ISO/SAE Reserved		
U0567	ISO/SAE Reserved		
U0568	ISO/SAE Reserved		
U0569	ISO/SAE Reserved		
U056A	ISO/SAE Reserved		
U056B	ISO/SAE Reserved		
U056C	ISO/SAE Reserved		
U056D	ISO/SAE Reserved		
U056E	ISO/SAE Reserved		
U056F	ISO/SAE Reserved		
U0570	ISO/SAE Reserved		
U0571	ISO/SAE Reserved		
U0572	ISO/SAE Reserved		
U0573	ISO/SAE Reserved		
U0574	ISO/SAE Reserved		
U0575	ISO/SAE Reserved		
U0576	ISO/SAE Reserved		
U0577	ISO/SAE Reserved		
U0578	ISO/SAE Reserved		
U0579	ISO/SAE Reserved		
U057A	ISO/SAE Reserved		
U057B	ISO/SAE Reserved		
U057C	ISO/SAE Reserved		

DTC Number	DTC Naming	Location	Foot Note
U057D	ISO/SAE Reserved		
U057E	ISO/SAE Reserved		
U057F	ISO/SAE Reserved		
U0580	ISO/SAE Reserved		
U0581	ISO/SAE Reserved		
U0582	ISO/SAE Reserved		
U0583	ISO/SAE Reserved		
U0584	ISO/SAE Reserved		
U0585	ISO/SAE Reserved		
U0586	ISO/SAE Reserved		
U0587	Invalid Data Received From With Radiator Anti Tamper Device		
U0588	Invalid Data Received From Transmission Fluid Pump Module		
U0589	Invalid Data Received From DC to AC Converter Control Module "A"		
U058A	Invalid Data Received From DC to AC Converter Control Module "B"		
U058B	ISO/SAE Reserved		
U058C	ISO/SAE Reserved		
U058D	ISO/SAE Reserved		
U058E	ISO/SAE Reserved		
U058F	ISO/SAE Reserved		
U0590	ISO/SAE Reserved		
U0591	ISO/SAE Reserved		
U0592	Invalid Data Received From Gear Shift Control Module "B"		
U0593	Invalid Data Received From Drive Motor Control Module "B"		
U0594	Invalid Data Received From Hybrid Powertrain Control Module		
U0595	Invalid Data Received From Powertrain Control Monitor Module		
U0596	Invalid Data Received From AC to AC Converter Control Module		
U0597	Invalid Data Received From AC to DC Converter Control Module "A"		
U0598	Invalid Data Received From AC to DC Converter Control Module "B"		
U0599	Invalid Data Received From DC to DC Converter Control Module "A"		
U059A	Invalid Data Received From DC to DC Converter Control Module "B"		
U059B	Invalid Data Received From Hybrid Battery Pack Sensor Module		
U059C	Invalid Data Received From Drive Motor Control Module "C"		
U059D	Invalid Data Received From Drive Motor Control Module "D"		
U059E	Invalid Data Received From NOX Sensor "A"		
U059F	Invalid Data Received From NOX Sensor "B"		
U05A0 – U05FF	ISO/SAE Reserved		

TABLE E7 - U06XX - U0FXX ISO/SAE RESERVED

DTC Number	DTC Naming	Location	Foot Note
U0600	ISO/SAE Reserved		

TABLE E8 - U1XXX MANUFACTURER CONTROLLED DTC

DTC Number	DTC Naming	Location	Foot Note
U1000	Manufacturer Controlled DTC		

TABLE E9 - U2XXX MANUFACTURER CONTROLLED DTC

DTC Number	DTC Naming	Location	Foot Note
U2000	Manufacturer Controlled DTC		

TABLE E10 - U30XX CONTROL MODULE/POWER DISTRIBUTION

DTC Number	DTC Naming	Location	Foot Note
U3000	Control Module		
U3001	Control Module Improper Shutdown		
U3002	Vehicle Identification Number		
U3003	Battery Voltage		
U3004	Accessory Power Relay		
U3005	Retained Accessory Power		
U3006	Control Module Input Power "A"		
U3007	Control Module Input Power "B"		
U3008	Control Module Ground "A"		
U3009	Control Module Ground "B"		
U300A	Ignition Switch		
U300B	Ignition Input Accessory/On/Start		
U300C	Ignition Input Off/On/Start		
U300D	Ignition Input On/Start		
U300E	Ignition Input On		
U300F	Ignition Input Accessory		
U3010	Ignition Input Start		
U3011	Ignition Input Off		
U3012 – U30FF	ISO/SAE Reserved		

TABLE E11 - U31XX - U3FXX ISO/SAE RESERVED

DTC Number	DTC Naming	Location	Foot Note
U3100	ISO/SAE Reserved		

APPENDIX F0 - FAILURE TYPE BYTE

Terms and Definitions	
Introduction	FTB is defined as the Failure Type Byte in extended DTCs most commonly used in CAN networks. The FTB is used with a base DTC made of two bytes designating the DTC number and B,C,P or U type. The base DTC will not specify a failure type such as an open or short circuit condition. Instead the failure type is specified by the FTB and is reported by an ECU with the base DTC. In effect then a reported DTC is made of the total of the three bytes. This standard leaves the choice of concatinating the information or separating the base DTC from the FTB open in regard to display for tools or information.
DTC Failure Category and Sub Type Definition	The DTC Failure Type Byte defines the DTC Failure Category and Sub Type of a base DTC. It represents the type of fault in the circuit or system (e.g. sensor open circuit, sensor shorted to ground, algorithm based failure, etc).
DTC Failure Type Byte Parameter Definition	The DTC Failure Type consists of sixteen (16) different Failure Categories, where each category is associated with sixteen (16) Sub Type Failures (also known as symptoms). The Sub Type Failures are logically grouped in a DTC Failure Type Category. This shall simplify the selection of the appropriate Sub Type Failure {Symptom} for a DTC. The DTC Failure Category is coded in the High Nibble of the "DTC Failure Type Byte" and the Failure Sub Type is coded in the Low Nibble of the "DTC Failure Type Byte".
DTC Selection	The DTC annexes of SAE J2012 and ISO 15031-6 documents define many two byte DTCs with failure type information. If such a standard DTC is already defined for a component / system and that DTC description already comprehends the DTC Failure Type information, then the standard DTC number can be used and the DTC Failure Type Byte shall be set to a value of 00 hex. A DTC Failure Type Byte value of 00 hex indicates that no additional sub type information is contained in the DTC Failure Type Byte.

The following examples show three (3) principle combinations of DTC and DTC Failure Type Byte.	
(012700 hex): P0127 Intake Air Temperature Too High	An emissions related DTC which does not require any additional description included in the DTC Failure Type Byte (no DTC Failure Category name and no DTC Failure Sub Type)
(803901 hex): B0039-01 Second Row Right Frontal Stage 1 Deployment Control - General Electrical Failure	A DTC which requires an additional description included in the DTC Failure Type Byte (DTC Failure Category name and DTC Failure Sub Type $01)
(403123 hex): C0031-23 Left Front Wheel Speed Sensor -General Signal Failure - Signal Stuck Low	A DTC which requires an additional description included in the DTC Failure Type Byte (DTC Failure Category name and DTC Failure Sub Type $23)

Failure Type Byte (hex)	FTB Category	FTB Category Description
00-0F	General Failure Information	This range includes all other categories and is used when the fault within that failure category is unique (not amenable to standardization through assignment of a new Sub Type) or when the detected fault is best described by two or more Sub Types within that Failure Category.
10-1F	General Electrical Failures	This range specifies the standard wiring failure modes (i.e., shorts and opens), and direct current (DC) quantities related by Ohm's Law.
20-2F	General Signal Failures	This range specifies quantities related to amplitude, frequency or rate of change, and wave shape.
30-3F	FM (Frequency Modulation) / PWM (Pulse Width Modulation) Failures	This range specifies faults related to Frequency Modulated (FM) and Pulse Width Modulated (PWM) inputs and outputs of the control module. This category also includes faults where position is determined by counts.
40-4F	System Internal Failures	This range specifies faults related to memory, software, and internal electrical circuitry; requiring component (control module, sensor, etc.) replacement.
50-5F	System Programming Failures	This range specifies faults related to operational software, calibrations, and options; remedied by configuring/programming a part of the system (control module, sensor, etc.).
60-6F	Algorithm Based Failures	This range specifies faults based on comparing two or more input parameters for plausibility, comparing a single parameter to itself with respect to time, or inhibits operation due to a reported failure of that circuit.
70-7F	Mechanical Failures	This range specifies faults detected by inappropriate motion in response to control module related input/controlled output.
80-8F	Bus Signal Failures	This range specifies faults related to bus hardware and signal integrity. This category is also used when the physical input for a signal is located in one control module and another control module diagnoses the circuit.
90-9F	Component Failures	This range specifies faults related to components connected to or monitored by a control module that do not themselves communicate to a scan tool via the data link connector. This range also specifies non-electrical faults related to components connected to or monitored by a control module.
A0-AF	ISO/SAE Reserved	This value is reserved by the document for future expansion.
B0-BF	ISO/SAE Reserved	This value is reserved by the document for future expansion.
C0-CF	ISO/SAE Reserved	This value is reserved by the document for future expansion.
D0-DF	ISO/SAE Reserved	This value is reserved by the document for future expansion.
E0-EF	ISO/SAE Reserved	This value is reserved by the document for future expansion.
F0-FF	Vehicle Manufacturer / System Supplier Specific	This range is reserved for vehicle manufacturer/system supplier use.

Failure Type Byte (hex)	DTC Sub Type Title	DTC Sub Type Description
00	No Sub Type Information	This sub type is used for failures where the base DTC text string provides the complete description of the failure itself (no Category and no Sub Type information used, e.g. emissions-related DTC (012700 hex): P0127 Intake Air Temperature Too High).
01	General Electrical Failure	This sub type is used for General Electrical Failures that cannot be assigned to a specific sub type (Category information and no Sub Type information, e.g. DTC (803901): B0039-01 Second Row Right Frontal Stage 1 Deployment Control - General Electrical Failure).
02	General Signal Failure	This sub type is used for General Signal Failures that cannot be assigned to a specific sub type (Category information and no Sub Type information, e.g. DTC (403002): C0030 Left Front Tone Wheel - General Signal Failure).
03	FM (Frequency Modulated) / PWM (Pulse Width Modulated) Failure	This sub type is used for FM / PWM Failures that cannot be assigned to a specific sub type.
04	System Internal Failure	This sub type is used for control module Internal Failures that cannot be assigned to a specific sub type.
05	System Programming Failure	This sub type is used for System Programming Failures that cannot be assigned to a specific sub type.
06	Algorithm Based Failure	This sub type is used for Algorithm Based Failures that cannot be assigned to a specific sub type.
07	Mechanical Failure	This sub type is used for Mechanical Failures that cannot be assigned to a specific sub type.
08	Bus Signal / Message Failure	This sub type is used for Bus Signal / Message Failures that cannot be assigned to a specific sub type.
09	Component Failure	This sub type is used for Component Failures that cannot be assigned to a specific sub type.
0A	ISO/SAE Reserved	This value is reserved by the document for future expansion.
0B	ISO/SAE Reserved	This value is reserved by the document for future expansion.
0C	ISO/SAE Reserved	This value is reserved by the document for future expansion.
0D	ISO/SAE Reserved	This value is reserved by the document for future expansion.
0E	ISO/SAE Reserved	This value is reserved by the document for future expansion.
0F	ISO/SAE Reserved	This value is reserved by the document for future expansion.
10	ISO/SAE Reserved	This value is reserved by the document for future expansion.
11	Circuit Short To Ground	This sub type is used for failures, where the control module measures ground (battery negative) potential for greater than a specified time period or when some other value is expected.
12	Circuit Short To Battery	This sub type is used for failures, where the control module measures vehicle system (battery positive) potential for greater than a specified time period or when some other value is expected.
13	Circuit Open	This sub type is used for failures, where the control module determines an open circuit via lack of bias voltage, low current flow, no change in the state of an input in response to an output, etc.
14	Circuit Short To Ground or Open	This sub type is used for failures, where the condition detected by the control module is the same for either indicated failure mode.
15	Circuit Short To Battery or Open	This sub type is used for failures, where the condition detected by the control module is the same for either indicated failure mode.
16	Circuit Voltage Below Threshold	This sub type is used for failures, where the control module measures a voltage below a specified range but not necessarily a short to ground.
17	Circuit Voltage Above Threshold	This sub type is used for failures where, the control module measures a voltage above a specified range but not necessarily a short to battery.

Failure Type Byte (hex)	DTC Sub Type Title	DTC Sub Type Description
18	Circuit Current Below Threshold	This sub type is used for failures, where the control module measures current flow below a specified range.
19	Circuit Current Above Threshold	This sub type is used for failures, where the control module measures current flow above a specified range.
1A	Circuit Resistance Below Threshold	This sub type is used for failures, where the control module infers a circuit resistance below a specified range.
1B	Circuit Resistance Above Threshold	This sub type is used for failures, where the control module infers a circuit resistance above a specified range.
1C	Circuit Voltage Out of Range	This sub type is used for failures, where the control module measures a voltage outside the expected range but not identified as too high or too low.
1D	Circuit Current Out of Range	This sub type is used for failures, where the control module measures a current outside the expected range but not identified as too high or too low.
1E	Circuit Resistance Out of Range	This sub type is used for failures, where the control module measures a resistance outside the expected range but not identified as too high or too low.
1F	Circuit Intermittent	This sub type is used for failures, where the control module momentarily detects one of the conditions defined above, but not long enough to set a specific sub type.
20	ISO/SAE Reserved	This value is reserved by the document for future expansion.
21	Signal Amplitude < Minimum	This sub type is used for failures where the control module measures a signal voltage below a specified range but not necessarily a short to ground (e.g., low gain).
22	Signal Amplitude > Maximum	This sub type is used for failures where the control module measures a signal voltage above a specified range but not necessarily a short to battery (e.g., gain too high).
23	Signal Stuck Low	This sub type is used for failures where the control module measures a signal that remains low when transitions are expected.
24	Signal Stuck High	This sub type is used for failures where the control module measures a signal that remains high when transitions are expected.
25	Signal Shape / Waveform Failure	This sub type is used for failures where the shape of the signal (plot of the amplitude with respect to time) is not correct, e.g., improper circuit impedance.
26	Signal Rate of Change Below Threshold	This sub type is used for failures where the signal transitions more slowly than is reasonably allowed.
27	Signal Rate of Change Above Threshold	This sub type is used for failures where the signal transitions more quickly than is reasonably allowed.
28	Signal Bias Level Out of Range / Zero Adjustment Failure	This sub type is used for failures where the control module applies a bias voltage or a zero signal level to a circuit upon which is superimposed a signal voltage (e.g., bias voltage to an Oxygen Sensor circuit, or a filtered digital m/sec^2 signal while vehicle stands still for a lateral accelerator sensor module.)
29	Signal Invalid	This sub type is used for failures where the value of the signal is not plausible given the operating conditions.
2A	Signal Stuck In Range	This sub type is used for failures where the value of the signal is in the normal operating range, but not correct for current operating conditions.
2B	Signal Cross Coupled	This sub type is used when a signal is found to be incorrectly correlated to another signal that the server is monitoring, indicating that the signals are shorted together
2C	ISO/SAE Reserved	This value is reserved by the document for future expansion.
2D	ISO/SAE Reserved	This value is reserved by the document for future expansion.
2E	ISO/SAE Reserved	This value is reserved by the document for future expansion.

Failure Type Byte (hex)	DTC Sub Type Title	DTC Sub Type Description
2F	Signal Erratic	This sub type is used for failures where the signal is momentarily implausible (not long enough for "signal invalid") or discontinuous.
30	ISO/SAE Reserved	This value is reserved by the document for future expansion.
31	No Signal	This sub type is used for failures where the control module does not detect a signal which ought to be present (e.g., wheel speed signals present for three of the four wheels and brakes not applied.)
32	Signal Low Time < Minimum	This sub type is used for failures where the control module detects the low pulse is too narrow with respect to time.
33	Signal Low Time > Maximum	This sub type is used for failures where the control module detects the low pulse is too wide with respect to time.
34	Signal High Time < Minimum	This sub type is used for failures where the control module detects the high pulse is too narrow with respect to time.
35	Signal High Time > Maximum	This sub type is used for failures where the control module detects the high pulse is too wide with respect to time.
36	Signal Frequency Too Low	This sub type is used for failures where the control module detects excessive duration for one cycle of the output across a specified sample size.
37	Signal Frequency Too High	This sub type is used for failures where the control module detects insufficient duration for one cycle of the output across a specified sample size.
38	Signal Frequency Incorrect	This sub type is used for failures where the control module measures an incorrect number of cycles in a given time period.
39	Signal Has Too Few Pulses	This sub type is used for failures where the control module measures too few pulses (e.g., position is calibrated in counts from one extreme to the other).
3A	Signal Has Too Many Pulses	This sub type is used for failures where the control module measures too many pulses (e.g., position is calibrated in counts from one extreme to the other).
3B	ISO/SAE Reserved	This value is reserved by the document for future expansion.
3C	ISO/SAE Reserved	This value is reserved by the document for future expansion.
3D	ISO/SAE Reserved	This value is reserved by the document for future expansion.
3E	ISO/SAE Reserved	This value is reserved by the document for future expansion.
3F	ISO/SAE Reserved	This value is reserved by the document for future expansion.
40	ISO/SAE Reserved	This value is reserved by the document for future expansion.
41	General Checksum Failure	This sub type is used by the control module to indicate an incorrect checksum calculation where memory type is not specified.
42	General Memory Failure	This sub type is used by the control module to indicate a memory failure where memory type is not specified.
43	Special Memory Failure	This sub type is used by the control module to indicate a memory failure where the specific memory type is not defined in this category.
44	Data Memory Failure	This sub type is used by the control module to indicate a data (or working) memory failure for embedded systems using FLASH memory. This is equivalent to RAM in RAM/ROM/EEPROM embedded systems.
45	Program Memory Failure	This sub type is used by the control module to indicate a program memory failure for embedded systems using FLASH memory. This is equivalent to ROM in RAM/ROM/EEPROM embedded systems.
46	Calibration / Parameter Memory Failure	This sub type is used by the control module to indicate a calibration / parameter memory failure for embedded systems using FLASH memory. This is equivalent to EEPROM in RAM/ROM/EEPROM embedded systems.
47	Watchdog / Safety µC Failure	This sub type is used by the control module to indicate a watchdog / safety µC failure.

Failure Type Byte (hex)	DTC Sub Type Title	DTC Sub Type Description
48	Supervision Software Failure	This sub type is used by the control module to indicate a supervision software failure.
49	Internal Electronic Failure	This sub type is used by the control module to indicate the detection of an internal circuit failure.
4A	Incorrect Component Installed	This sub type is used by the control module to indicate a mismatch between the hardware connected to the control module and the hardware expected by the control module.
4B	Over Temperature	This sub type is used by the control module to indicate the detection of an internal temperature above the expected range.
4C	ISO/SAE Reserved	This value is reserved by the document for future expansion.
4D	ISO/SAE Reserved	This value is reserved by the document for future expansion.
4E	ISO/SAE Reserved	This value is reserved by the document for future expansion.
4F	ISO/SAE Reserved	This value is reserved by the document for future expansion.
50	ISO/SAE Reserved	This value is reserved by the document for future expansion.
51	Not Programmed	This sub type is used by the control module to indicate that programming is required.
52	Not Activated	This sub type is used by the control module to indicate that some portion of the program has not been enabled.
53	Deactivated	This sub type is used by the control module to indicate that that some portion of the program has been disabled.
54	Missing Calibration	This sub type is used by the control module to indicate that an operational range, etc., for a sensor or actuator must be taught to the control module, e.g. by programming or learning.
55	Not Configured	This sub type is used by the control module to indicate the need to enter (program) the sub system option content or the vehicle option content.
56	Invalid / Incompatible Configuration	This sub type indicates a control module or system configuration that cannot be valid, e.g. to have mutually exclusive options set on at the same time, or a set up that is not supported by the currently installed hardware/software.
57	Invalid / Incompatible Software Component	This sub type is used by the control module to indicate that a software component (calibration or program) has been identified as invalid for the control module or incompatible with other hardware or software identified by the control module, e.g. a downloaded calibration software component is incompatible with a permanent or downloaded strategy software component.
58	ISO/SAE Reserved	This value is reserved by the document for future expansion.
59	ISO/SAE Reserved	This value is reserved by the document for future expansion.
5A	ISO/SAE Reserved	This value is reserved by the document for future expansion.
5B	ISO/SAE Reserved	This value is reserved by the document for future expansion.
5C	ISO/SAE Reserved	This value is reserved by the document for future expansion.
5D	ISO/SAE Reserved	This value is reserved by the document for future expansion.
5E	ISO/SAE Reserved	This value is reserved by the document for future expansion.
5F	ISO/SAE Reserved	This value is reserved by the document for future expansion.
60	ISO/SAE Reserved	This value is reserved by the document for future expansion.
61	Signal Calculation Failure	This sub type is used for algorithm based calculation failures.
62	Signal Compare Failure	This sub type is used for failures where the control module compares two or more input parameters for plausibility.
63	Circuit / Component Protection Time-Out	This sub type is used for failures where the control module detects a function is active for greater than a specified time period.
64	Signal Plausibility Failure	This sub type is used for failures where the control module detects a single input parameter for plausibility.

Failure Type Byte (hex)	DTC Sub Type Title	DTC Sub Type Description
65	Signal Has Too Few Transitions / Events	This sub type is used for failures where the control module monitors a parameter over time within specified limits and detects fewer than the expected number of transitions.
66	Signal Has Too Many Transitions / Events	This sub type is used for failures where the control module monitors a parameter over time within specified limits and detects more than the expected number of transitions.
67	Signal Incorrect After Event	This sub type is used for failures where the control module does not see the correct change of a parameter or group of parameters in response to a particular event.
68	Event Information	This sub type is used by the control module to indicate the detection of a system event that was not caused by the control module itself but forces the control module to store a DTC (e.g. missing functionality from another system/control module).
69	ISO/SAE Reserved	This value is reserved by the document for future expansion.
6A	ISO/SAE Reserved	This value is reserved by the document for future expansion.
6B	ISO/SAE Reserved	This value is reserved by the document for future expansion.
6C	ISO/SAE Reserved	This value is reserved by the document for future expansion.
6D	ISO/SAE Reserved	This value is reserved by the document for future expansion.
6E	ISO/SAE Reserved	This value is reserved by the document for future expansion.
6F	ISO/SAE Reserved	This value is reserved by the document for future expansion.
70	ISO/SAE Reserved	This value is reserved by the document for future expansion.
71	Actuator Stuck	This sub type is used for failures where the control module does not detect any motion in response to energizing a motor, solenoid, relay, etc.
72	Actuator Stuck Open	This sub type is used for failures where the control module does not detect any motion upon commanding the operation of a motor, solenoid, relay, etc., to close some piece of equipment.
73	Actuator Stuck Closed	This sub type is used for failures where the control module does not detect any motion upon commanding the operation of a motor, solenoid, relay, etc., to open some piece of equipment.
74	Actuator Slipping	This sub type is used for failures where the control module detects excessive duration to command a motor, solenoid, relay, etc., to move a piece of equipment to a desired position.
75	Emergency Position Not Reachable	This sub type is used for failures where the control module is unable to command a motor, solenoid, relay, etc., to move a piece of equipment to the emergency position.
76	Wrong Mounting Position	This sub type is used for failures where the control module detects incorrectly mounted components, e.g., acceleration sensor showing a position error of 90°.
77	Commanded Position Not Reachable	This sub type is used for failures where the control module is unable to command a motor, solenoid, relay, etc., to move a piece of equipment to the commanded position either due to a failure in the actuator or its mechanical environment.
78	Alignment or Adjustment Incorrect	This sub type is used for failures where the control module detects incorrectly adjusted or aligned components.
79	Mechanical Linkage Failure	This sub type is used for failures where the control module detects that the actuator is operational but the driven device is not operating, e.g., drive cable for power sliding door broken.
7A	Fluid Leak or Seal Failure	This sub type is used for failures where the control module detects that a mechanical component has an unexpected gas or liquid flow in, out, or through the component.
7B	Low Fluid Level	This sub type is used for failures where the control module detects that a fluid level is too low for proper operation of the system.
7C	ISO/SAE Reserved	This value is reserved by the document for future expansion.
7D	ISO/SAE Reserved	This value is reserved by the document for future expansion.

Failure Type Byte (hex)	DTC Sub Type Title	DTC Sub Type Description
7E	ISO/SAE Reserved	This value is reserved by the document for future expansion.
7F	ISO/SAE Reserved	This value is reserved by the document for future expansion.
80	ISO/SAE Reserved	This value is reserved by the document for future expansion.
81	Invalid Serial Data Received	This sub type is used by the control module to indicate a signal was received with the corresponding validity bit equal to "invalid" or post processing of the signal determines it is invalid.
82	Alive / Sequence Counter Incorrect / Not Updated	This sub type is used by the control module to indicate that a signal was received without the corresponding rolling count value being properly updated.
83	Value of Signal Protection Calculation Incorrect	This sub type is used by the control module to indicate, that a message was processed with an incorrect protection (checksum) calculation.
84	Signal Below Allowable Range	This sub type is used for failures where some circuit quantity, reported via serial data, is below a specified range.
85	Signal Above Allowable Range	This sub type is used for failures where some circuit quantity, reported via serial data, is above a specified range.
86	Signal Invalid	This sub type is used for failures where some circuit quantity, reported via serial data, is not plausible given the operating conditions.
87	Missing Message	This sub type is used for failures where one (or more) expected message(s) is not received, e.g., periodic transmission where the repetition time is too high, or message not received as a result of unforeseen reset events of the concerning component (e.g. engine control unit communicating with ABS).
88	Bus off	This sub type is used for failures where a data bus is not available.
89	ISO/SAE Reserved	This value is reserved by the document for future expansion.
8A	ISO/SAE Reserved	This value is reserved by the document for future expansion.
8B	ISO/SAE Reserved	This value is reserved by the document for future expansion.
8C	ISO/SAE Reserved	This value is reserved by the document for future expansion.
8D	ISO/SAE Reserved	This value is reserved by the document for future expansion.
8E	ISO/SAE Reserved	This value is reserved by the document for future expansion.
8F	Erratic	This sub type is used for failures where the signal, reported via serial data, is momentarily implausible or discontinuous.
90	ISO/SAE Reserved	This value is reserved by the document for future expansion.
91	Parametric	This sub type is used for failures where the control module has detected that a component parameter (e.g., capacitance or inductance) is outside its expected range.
92	Performance or Incorrect Operation	This sub type is used for failures where the control module has detected that the component performance is outside its expected range or operating in an incorrect way.
93	No Operation	This sub type is used for failures where the control module has detected that the component is not operating.
94	Unexpected Operation	This sub type is used for failures where the control module has detected that the component is operating in a way or at a time that it has not been commanded to operate.
95	Incorrect Assembly	This sub type is used for failures where the control module has detected that the component has been incorrectly installed (e.g., hydraulic pipes crossed over, circuits cross wired) or polarity errors.
96	Component Internal Failure	This sub type is used for failures where the control module has received an indication about the component that indicates a failure (e.g., an intelligent actuator or sensor) is indicating an internal fault.
97	Component or System Operation Obstructed or Blocked	This sub type is used for failures where the control module has detected that the operation of a component is prevented by an obstruction, e.g., advanced cruise system radar beam obstructed.

Failure Type Byte (hex)	DTC Sub Type Title	DTC Sub Type Description
98	Component or System Over Temperature	This sub type is used for failures where the control module has detected that the temperature is too high for the correct operation of the component or system.
99	ISO/SAE Reserved	This value is reserved by the document for future expansion.
9A	Component or System Operating Conditions	This sub type is used for failures where the control module has detected that environmental or other operating conditions are either temporarily or permanently outside the design limits for correct operation such that all or part of a component function is inhibited or fails, e.g. a radio is disabled because its LCD display or its CD mechanism cannot operate at a low ambient temperature.
9B	ISO/SAE Reserved	This value is reserved by the document for future expansion.
9C	ISO/SAE Reserved	This value is reserved by the document for future expansion.
9D	ISO/SAE Reserved	This value is reserved by the document for future expansion.
9E	ISO/SAE Reserved	This value is reserved by the document for future expansion.
9F	ISO/SAE Reserved	This value is reserved by the document for future expansion.
A0	ISO/SAE Reserved	This value is reserved by the document for future expansion.
A1	ISO/SAE Reserved	This value is reserved by the document for future expansion.
A2	ISO/SAE Reserved	This value is reserved by the document for future expansion.
A3	ISO/SAE Reserved	This value is reserved by the document for future expansion.
A4	ISO/SAE Reserved	This value is reserved by the document for future expansion.
A5	ISO/SAE Reserved	This value is reserved by the document for future expansion.
A6	ISO/SAE Reserved	This value is reserved by the document for future expansion.
A7	ISO/SAE Reserved	This value is reserved by the document for future expansion.
A8	ISO/SAE Reserved	This value is reserved by the document for future expansion.
A9	ISO/SAE Reserved	This value is reserved by the document for future expansion.
AA	ISO/SAE Reserved	This value is reserved by the document for future expansion.
AB	ISO/SAE Reserved	This value is reserved by the document for future expansion.
AC	ISO/SAE Reserved	This value is reserved by the document for future expansion.
AD	ISO/SAE Reserved	This value is reserved by the document for future expansion.
AE	ISO/SAE Reserved	This value is reserved by the document for future expansion.
AF	ISO/SAE Reserved	This value is reserved by the document for future expansion.
B0	ISO/SAE Reserved	This value is reserved by the document for future expansion.
B1	ISO/SAE Reserved	This value is reserved by the document for future expansion.
B2	ISO/SAE Reserved	This value is reserved by the document for future expansion.
B3	ISO/SAE Reserved	This value is reserved by the document for future expansion.
B4	ISO/SAE Reserved	This value is reserved by the document for future expansion.
B5	ISO/SAE Reserved	This value is reserved by the document for future expansion.
B6	ISO/SAE Reserved	This value is reserved by the document for future expansion.
B7	ISO/SAE Reserved	This value is reserved by the document for future expansion.
B8	ISO/SAE Reserved	This value is reserved by the document for future expansion.
B9	ISO/SAE Reserved	This value is reserved by the document for future expansion.
BA	ISO/SAE Reserved	This value is reserved by the document for future expansion.
BB	ISO/SAE Reserved	This value is reserved by the document for future expansion.
BC	ISO/SAE Reserved	This value is reserved by the document for future expansion.
BD	ISO/SAE Reserved	This value is reserved by the document for future expansion.
BE	ISO/SAE Reserved	This value is reserved by the document for future expansion.
BF	ISO/SAE Reserved	This value is reserved by the document for future expansion.
C0	ISO/SAE Reserved	This value is reserved by the document for future expansion.
C1	ISO/SAE Reserved	This value is reserved by the document for future expansion.
C2	ISO/SAE Reserved	This value is reserved by the document for future expansion.
C3	ISO/SAE Reserved	This value is reserved by the document for future expansion.
C4	ISO/SAE Reserved	This value is reserved by the document for future expansion.

Failure Type Byte (hex)	DTC Sub Type Title	DTC Sub Type Description
C5	ISO/SAE Reserved	This value is reserved by the document for future expansion.
C6	ISO/SAE Reserved	This value is reserved by the document for future expansion.
C7	ISO/SAE Reserved	This value is reserved by the document for future expansion.
C8	ISO/SAE Reserved	This value is reserved by the document for future expansion.
C9	ISO/SAE Reserved	This value is reserved by the document for future expansion.
CA	ISO/SAE Reserved	This value is reserved by the document for future expansion.
CB	ISO/SAE Reserved	This value is reserved by the document for future expansion.
CC	ISO/SAE Reserved	This value is reserved by the document for future expansion.
CD	ISO/SAE Reserved	This value is reserved by the document for future expansion.
CE	ISO/SAE Reserved	This value is reserved by the document for future expansion.
CF	ISO/SAE Reserved	This value is reserved by the document for future expansion.
D0	ISO/SAE Reserved	This value is reserved by the document for future expansion.
D1	ISO/SAE Reserved	This value is reserved by the document for future expansion.
D2	ISO/SAE Reserved	This value is reserved by the document for future expansion.
D3	ISO/SAE Reserved	This value is reserved by the document for future expansion.
D4	ISO/SAE Reserved	This value is reserved by the document for future expansion.
D5	ISO/SAE Reserved	This value is reserved by the document for future expansion.
D6	ISO/SAE Reserved	This value is reserved by the document for future expansion.
D7	ISO/SAE Reserved	This value is reserved by the document for future expansion.
D8	ISO/SAE Reserved	This value is reserved by the document for future expansion.
D9	ISO/SAE Reserved	This value is reserved by the document for future expansion.
DA	ISO/SAE Reserved	This value is reserved by the document for future expansion.
DB	ISO/SAE Reserved	This value is reserved by the document for future expansion.
DC	ISO/SAE Reserved	This value is reserved by the document for future expansion.
DD	ISO/SAE Reserved	This value is reserved by the document for future expansion.
DE	ISO/SAE Reserved	This value is reserved by the document for future expansion.
DF	ISO/SAE Reserved	This value is reserved by the document for future expansion.
E0	ISO/SAE Reserved	This value is reserved by the document for future expansion.
E1	ISO/SAE Reserved	This value is reserved by the document for future expansion.
E2	ISO/SAE Reserved	This value is reserved by the document for future expansion.
E3	ISO/SAE Reserved	This value is reserved by the document for future expansion.
E4	ISO/SAE Reserved	This value is reserved by the document for future expansion.
E5	ISO/SAE Reserved	This value is reserved by the document for future expansion.
E6	ISO/SAE Reserved	This value is reserved by the document for future expansion.
E7	ISO/SAE Reserved	This value is reserved by the document for future expansion.
E8	ISO/SAE Reserved	This value is reserved by the document for future expansion.
E9	ISO/SAE Reserved	This value is reserved by the document for future expansion.
EA	ISO/SAE Reserved	This value is reserved by the document for future expansion.
EB	ISO/SAE Reserved	This value is reserved by the document for future expansion.
EC	ISO/SAE Reserved	This value is reserved by the document for future expansion.
ED	ISO/SAE Reserved	This value is reserved by the document for future expansion.
EE	ISO/SAE Reserved	This value is reserved by the document for future expansion.
EF	ISO/SAE Reserved	This value is reserved by the document for future expansion.
F0	Manufacturer Defined	This value is reserved for vehicle manufacturer/system supplier use.
F1	Manufacturer Defined	This value is reserved for vehicle manufacturer/system supplier use.
F2	Manufacturer Defined	This value is reserved for vehicle manufacturer/system supplier use.
F3	Manufacturer Defined	This value is reserved for vehicle manufacturer/system supplier use.
F4	Manufacturer Defined	This value is reserved for vehicle manufacturer/system supplier use.
F5	Manufacturer Defined	This value is reserved for vehicle manufacturer/system supplier use.
F6	Manufacturer Defined	This value is reserved for vehicle manufacturer/system supplier use.
F7	Manufacturer Defined	This value is reserved for vehicle manufacturer/system supplier use.

Failure Type Byte (hex)	DTC Sub Type Title	DTC Sub Type Description
F8	Manufacturer Defined	This value is reserved for vehicle manufacturer/system supplier use.
F9	Manufacturer Defined	This value is reserved for vehicle manufacturer/system supplier use.
FA	Manufacturer Defined	This value is reserved for vehicle manufacturer/system supplier use.
FB	Manufacturer Defined	This value is reserved for vehicle manufacturer/system supplier use.
FC	Manufacturer Defined	This value is reserved for vehicle manufacturer/system supplier use.
FD	Manufacturer Defined	This value is reserved for vehicle manufacturer/system supplier use.
FE	Manufacturer Defined	This value is reserved for vehicle manufacturer/system supplier use.
FF	Manufacturer Defined	This value is reserved for vehicle manufacturer/system supplier use.