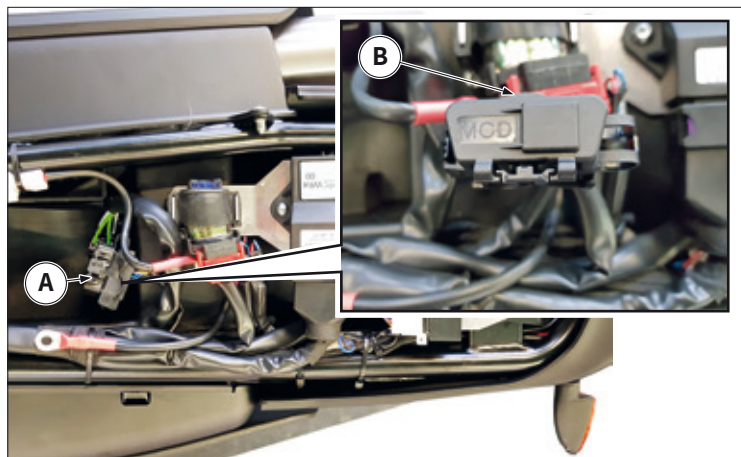




### 11.1 INSTRUMENTS DIAGNOSIS AND CONNECTION SOCKET

To perform diagnostic tests on the vehicle, it is necessary to access the diagnostic socket and connect a recognized diagnostic tester.

The diagnostic socket A is located under the seat, in the space between the battery and the fuse box: to remove the seat, refer to “12.1 Seat removal” on page 122.

To connect the diagnostic tool, pull the OBD plug slightly out of the space in the battery compartment and open the protective cover B.



#### Option with TEXA wireless handheld computer

Connect the wireless device “C” to the diagnostic socket A.

Turn on the wireless device and turn the key to “ON”.

Proceed with the diagnosis through the handheld computer.



#### Option with TEXA wired device

Connect the device “D” with the data communication wiring “E” to the diagnostic socket “A”.

Turn the vehicle key to “ON”.

Proceed with the diagnosis using the personal computer set up.

## 11.2 ERROR CODES

### 11.2.1 Ignition module Error codes table

**i** The following list contains all the codes programmed in the ignition module, in addition to those available for this model of motorcycle.

| ERROR CODE | ERROR                                                                 |
|------------|-----------------------------------------------------------------------|
| 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      | Control circuit of the fuel shut-off valve interrupted                |
| P0006      | Low voltage of the fuel shut-off valve control circuit                |
| P0007      | High voltage of the fuel shut-off valve control circuit               |
| P0008      | Engine position system performance (bank 1)                           |
| P0009      | Engine position system performance (bank 2)                           |
| P000A      | Camshaft A position, slow response (bank 1)                           |
| P000B      | Camshaft B position, slow response (bank 1)                           |
| P000C      | Camshaft A position, slow response (bank 2)                           |
| P000D      | Camshaft B position, slow response (bank 2)                           |
| P000E      | Fuel flow regulator control, learning limit exceeded                  |
| P000F      | Pressure relief valve of the supply system activated                  |
| 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)                     |
| P001B      | A Camshaft profile control circuit, low (bank 1)                      |
| P001C      | A Camshaft profile control circuit, high (bank 1)                     |
| P001D      | A Camshaft profile control circuit, open (bank 2)                     |
| P001E      | A Camshaft profile control circuit, low (bank 2)                      |
| P001F      | A Camshaft profile control circuit, high (bank 2)                     |
| 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)                     |
| P002B      | B Camshaft profile control circuit, low (bank 1)                      |
| P002C      | B Camshaft profile control circuit, high (bank 1)                     |
| P002D      | B Camshaft profile control circuit, open (bank 2)                     |
| P002E      | B Camshaft profile control circuit, low (bank 2)                      |
| P002F      | B Camshaft profile control circuit, high (bank 2)                     |
| P0030      | Oxygen sensor heater circuit                                          |
| P0031      | Oxygen sensor heater circuit                                          |
| P0032      | Oxygen sensor heater circuit                                          |
| P0036      | Heated oxygen sensor heater for bank 1 sensor 2                       |
| P0037      | Heated oxygen sensor heater control circuit (bank 1 sensor 2) low     |
| P0038      | Heated oxygen sensor heater control circuit (bank 1 sensor 2) high    |
| P003C      | Camshaft Profile Control Performance/Stuck Off - Bank 1               |
| P003D      | A Camshaft Profile Control Circuit Performance/Stuck Off - Bank 1     |
| P003E      | Camshaft Profile Control Performance/Stuck Off - Bank 2               |

| ERROR CODE | ERROR                                                                     |
|------------|---------------------------------------------------------------------------|
| P003F      | A Camshaft Profile Control Circuit Performance/Stuck Off - Bank 2         |
| P0040      | Oxygen sensor signals swapped - bank 1 sensor 1/bank 2 sensor 1           |
| P0041      | Oxygen sensor signals swapped - bank 1 sensor 2/bank 2 sensor 2.          |
| P0042      | Oxygen Heater Control Circuit (HO2S) Bank 1 Sensor 3                      |
| P0043      | Oxygen Heater Control Circuit Low (bank 1 sensor 3)                       |
| P0044      | Oxygen heater control circuit high (bank 1 sensor 3)                      |
| P0050      | Oxygen Heater Control Circuit (HO2S) Bank 2 Sensor 1                      |
| P0051      | Heated oxygen sensor heater control circuit (bank 2 sensor 1) low         |
| P0052      | Heated oxygen sensor heater control circuit (bank 2 sensor 1) high        |
| P0053      | Oxygen sensor heater resistance (bank 1 sensor 1)                         |
| P0054      | Oxygen sensor heater resistance (bank 1 sensor 2)                         |
| P0055      | Oxygen sensor heater resistance (bank 1 sensor 3)                         |
| P0056      | Oxygen Sensor heater circuit (bank 2 sensor 2)                            |
| P0057      | Heated oxygen sensor heater control circuit (bank 2 sensor 2) low         |
| P0058      | Heated oxygen sensor heater control circuit (bank 2 sensor 2) high        |
| P0059      | Oxygen sensor heater resistance (bank 2 sensor 1)                         |
| P005A      | B Camshaft Profile Control Performance/Stuck Off - Bank 1                 |
| P005B      | B Camshaft Profile Control Stuck On - Bank 1                              |
| P005C      | B Camshaft Profile Control Performance/Stuck Off - Bank 2                 |
| P005D      | B Camshaft Profile Control Stuck On - Bank 2                              |
| P0060      | Oxygen sensor heater resistance (bank 2 sensor 2)                         |
| P0061      | Oxygen sensor heater resistance (bank 1 sensor 3)                         |
| P0062      | Oxygen Sensor heater circuit (bank 2 sensor 3)                            |
| P0063      | Oxygen Heater Control Circuit Low (bank 2 sensor 3)                       |
| P0064      | Oxygen heater control circuit high (bank 2 sensor 3)                      |
| P0068      | MAP/MAF - throttle position correlation                                   |
| P0069      | Manifold absolute pressure - barometric pressure correlation.             |
| P006A      | Manifold absolute pressure - mass or volume air flow correlation          |
| P006B      | Manifold absolute pressure-exhaust pressure correlation                   |
| P0070      | Ambient air temperature sensor circuit                                    |
| P0071      | Ambient air temperature                                                   |
| P0072      | Ambient air temperature sensor (low signal)                               |
| P0073      | Ambient air temperature sensor (high signal)                              |
| P0074      | Ambient air temperature sensor circuit                                    |
| P0075      | Suction valve control solenoid valve (bank 1)                             |
| P0076      | Low voltage of the suction valve control solenoid valve circuit (bank 1)  |
| P0077      | High voltage of the suction valve control solenoid valve circuit (bank 1) |
| P0078      | Exhaust valve control solenoid valve (bank 1)                             |
| P0079      | Exhaust Valve Control Solenoid Circuit Low (bank 1)                       |
| P007A      | Charge Air Cooler Temperature Sensor Circuit                              |
| P007B      | Charge Air Cooler Temperature Sensor Circuit Range/Performance            |
| P007C      | Charge Air Cooler Temperature Sensor Circuit Low                          |
| P007D      | Charge Air Cooler Temperature Sensor Circuit High                         |
| P007E      | Charge Air Cooler Temperature Sensor Circuit Intermittent/Erratic         |
| P007F      | Charge Air Cooler Temperature Sensor Bank1/Bank2 Correlation              |
| P0080      | Exhaust valve control solenoid - circuit high (Bank 1)                    |
| P0081      | Suction valve control solenoid valve (bank 2)                             |
| P0082      | Low voltage of the suction valve control solenoid valve circuit (bank 2)  |
| P0083      | High voltage of the suction valve control solenoid valve circuit (bank 2) |

| ERROR CODE | ERROR                                                               |
|------------|---------------------------------------------------------------------|
| P0084      | Exhaust valve control solenoid valve (bank 2)                       |
| P0085      | Exhaust valve control solenoid - circuit low (bank 2)               |
| P0086      | Exhaust valve control solenoid - circuit high (Bank 2)              |
| P0089      | Fuel pressure regulator efficiency                                  |
| P008A      | Low pressure fuel system pressure - Too low                         |
| 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 metering solenoid valve [circuit open]                         |
| P0091      | Fuel metering solenoid valve [short-circuit to ground]              |
| P0092      | Fuel metering solenoid valve [positive short-circuit]               |
| P0093      | Fuel System Leak Detected - Large Leak                              |
| P0094      | Fuel System Leak Detected - Small Leak                              |
| P0095      | Intake air temperature sensor 2                                     |
| P0096      | INTAKE AIR TEMPERATURE SENSOR 2 CIRCUIT RANGE/PERFORMANCE           |
| P0097      | Intake air temperature sensor 2 low input                           |
| P0098      | Intake air temperature sensor 2 high input                          |
| P0099      | Intake air temperature sensor 2 - circuit intermittent/irregular    |
| 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                        |
| P00A1      | Charge Air Cooler Temperature Sensor Circuit Range/Performance      |
| P00A2      | Charge Air Cooler Temperature Sensor Circuit Low                    |
| P00A3      | Charge Air Cooler Temperature Sensor Circuit High                   |
| P00A4      | Charge Air Cooler Temperature Sensor Circuit Intermittent/Erratic   |
| P00A5      | Intake air temperature sensor 2 circuit                             |
| P00A6      | INTAKE AIR TEMPERATURE SENSOR 2 CIRCUIT RANGE/PERFORMANCE           |
| P00A7      | INTAKE AIR TEMPERATURE SENSOR 2 CIRCUIT LOW                         |
| P00A8      | Intake air temperature sensor 2 - circuit high                      |
| P00A9      | Intake air temperature sensor 2 - circuit intermittent/irregular    |
| P00AA      | Intake air temperature sensor 1 circuit                             |
| P00AB      | Intake air temperature sensor 1 - Circuit range/performance         |
| P00AC      | Intake air temperature sensor 1 - circuit low                       |
| P00AD      | Intake air temperature sensor 1 - circuit high                      |
| P00AE      | Intake air temperature sensor 1 - circuit intermittent              |
| P00B1      | Radiator coolant temperature sensor circuit                         |
| P00B2      | Radiator coolant temperature sensor circuit out of range            |
| 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      | Manifold absolute pressure - mass or volume air flow correlation    |

| ERROR CODE | ERROR                                                                              |
|------------|------------------------------------------------------------------------------------|
| P00B9      | Low pressure fuel system pressure - Too low                                        |
| P00BA      | Low Fuel Pressure - Forced Limited Power                                           |
| P00BB      | Fuel Injector Insufficient Flow - Forced Limited Power - high current.             |
| P00BC      | Mass or Volume Air Flow A Circuit out of nominal range - Air flow too low          |
| P00BD      | Mass or Volume Air Flow A Circuit out of nominal range - Air flow too high         |
| P00BE      | Mass or Volume Air Flow B Circuit out of nominal range - Air flow too low          |
| P00BF      | Mass or Volume Air Flow B Circuit out of normal range - Air flow too high          |
| P0100      | Mass or Volume Air Flow Circuit                                                    |
| P0101      | Mass or Volume Air Flow Circuit Range/Performance                                  |
| P0102      | Air mass metering, circuit low                                                     |
| P0103      | Air mass or volume air metering - signal high                                      |
| P0104      | Mass or volume air flow, intermittent circuit                                      |
| P0105      | Manifold absolute pressure / Barometric pressure                                   |
| P0106      | Manifold absolute pressure (MAP) / Barometric pressure - range/performance problem |
| P0107      | Manifold absolute pressure                                                         |
| P0108      | Manifold absolute pressure                                                         |
| P0109      | Manifold absolute pressure (MAP) / Barometric pressure intermittent circuit        |
| 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                                                      |
| P0111      | Intake air temperature sensor 1 - Circuit range/performance                        |
| P0112      | Air temperature sensor                                                             |
| P0113      | Air temperature sensor                                                             |
| P0114      | Intake air temperature sensor 1 - circuit intermittent                             |
| P0115      | Engine coolant temperature                                                         |
| P0116      | Engine Coolant Temperature Sensor Circuit Range/Performance problem                |
| P0117      | Engine coolant temperature                                                         |
| P0118      | Engine coolant temperature                                                         |
| P0119      | ECT Sensor Circuit signal 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                 |
| P0120      | Throttle position sensor                                                           |
| P0121      | Throttle position sensor range/performance (main/secondary)                        |
| P0122      | Throttle position sensor                                                           |
| P0123      | Throttle position sensor                                                           |
| P0124      | Throttle position sensor circuit - intermittent signal                             |
| 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                                                        |
| P0130      | Oxygen sensor heating circuit (bank 1, sensor 1)                                   |

| ERROR CODE | ERROR                                                               |
|------------|---------------------------------------------------------------------|
| P0131      | Oxygen sensor                                                       |
| P0132      | Oxygen sensor                                                       |
| P0133      | Oxygen sensor control circuit slow response (Bank 1 Sensor 1)       |
| P0134      | Oxygen sensor                                                       |
| P0135      | Oxygen sensor heating circuit (bank 1, sensor 1)                    |
| P0136      | Oxygen sensor heating circuit (bank 1, sensor 2)                    |
| P0137      | Heated oxygen sensor heater control circuit (bank 1 sensor 2) low   |
| P0138      | Heated oxygen sensor heater control circuit (bank 1 sensor 2) high  |
| P0139      | Oxygen sensor control circuit slow response (Bank 1 Sensor 2)       |
| P013A      | Oxygen sensor 2 slow response - rich to lean                        |
| P013B      | Oxygen sensor 2 slow response - lean to rich                        |
| P013C      | Oxygen sensor 2 slow response - rich to lean                        |
| P013D      | Oxygen sensor 2 slow response - lean to rich                        |
| P013E      | Oxygen sensor delayed response - rich to lean                       |
| P013F      | Oxygen sensor delayed response - lean to rich                       |
| P0140      | Oxygen sensor heater circuit no activity detected (bank 1 sensor 2) |
| P0141      | Oxygen sensor heating circuit (bank 1, sensor 2)                    |
| P0142      | Oxygen sensor heating circuit (bank 1, sensor 3)                    |
| P0143      | Oxygen Heater Control Circuit Low (bank 1 sensor 3)                 |
| P0144      | Oxygen heater control circuit high (bank 1 sensor 3)                |
| P0145      | Oxygen sensor control circuit slow response (Bank 1 Sensor 3)       |
| P0146      | Oxygen sensor heater circuit no activity detected (bank 1 sensor 3) |
| P0147      | Oxygen sensor heating circuit (bank 1, sensor 3)                    |
| P0148      | Fuel delivery error                                                 |
| P0149      | Fuel timing error                                                   |
| P014A      | Oxygen sensor delayed response - rich to lean                       |
| P014B      | Oxygen sensor delayed response - lean to rich                       |
| P014C      | Oxygen sensor 2 slow response - rich to lean                        |
| P014D      | Oxygen sensor 2 slow response - lean to rich                        |
| P014E      | Oxygen sensor 2 slow response - rich to lean                        |
| P014F      | Oxygen sensor 2 slow response - lean to rich                        |
| P0150      | Oxygen Heater Control Circuit (HO2S) Bank 2 Sensor 1                |
| P0151      | Heated oxygen sensor heater control circuit (bank 2 sensor 1) low   |
| P0152      | Heated oxygen sensor heater control circuit (bank 2 sensor 1) high  |
| P0153      | Oxygen sensor circuit slow response (bank 2 sensor 1)               |
| P0154      | Oxygen sensor heater circuit no activity detected (bank 1 sensor 2) |
| P0155      | Oxygen sensor heating circuit (bank 2, sensor 1)                    |
| P0156      | Oxygen sensor heating circuit (bank 2, sensor 2)                    |
| P0157      | Heated oxygen sensor heater control circuit (bank 2 sensor 2) low   |
| P0158      | Heated oxygen sensor heater control circuit (bank 2 sensor 2) high  |
| P0159      | Oxygen sensor control circuit slow response (Bank 2 Sensor 2)       |
| P015A      | Oxygen sensor delayed response - rich to lean                       |
| P015B      | Oxygen sensor delayed response - lean to rich                       |
| P015C      | Oxygen sensor delayed response - rich to lean                       |
| P015D      | Oxygen sensor delayed response - lean to rich                       |
| P0160      | Oxygen sensor heater circuit no activity detected (bank 2 sensor 2) |
| P0161      | Heated oxygen sensor heater control circuit (bank 2 sensor 2) high  |
| P0162      | Oxygen sensor heating circuit (bank 1, sensor 3)                    |
| P0163      | Oxygen Heater Control Circuit Low (bank 2 sensor 3)                 |

| ERROR CODE | ERROR                                                               |
|------------|---------------------------------------------------------------------|
| P0164      | Oxygen heater control circuit high (bank 2 sensor 3)                |
| P0165      | Oxygen sensor circuit slow response (bank 2 sensor 3)               |
| P0166      | Oxygen sensor heater circuit no activity detected (bank 2 sensor 3) |
| P0167      | Oxygen sensor heating circuit (bank 2, sensor 3)                    |
| P0168      | Fuel temperature too high                                           |
| P0169      | Incorrect fuel composition                                          |
| P0170      | Fuel trim malfunction (bank 1).                                     |
| P0171      | System too lean - bank 1                                            |
| P0172      | System too rich, Bank 1                                             |
| P0173      | Fuel trim malfunction (bank 2).                                     |
| P0174      | System Too Lean, Bank 2                                             |
| P0175      | System too rich, Bank 1                                             |
| P0176      | Fuel composition sensor                                             |
| P0177      | Fuel composition sensor circuit range/performance                   |
| P0178      | Fuel composition sensor circuit low                                 |
| P0179      | Fuel composition sensor circuit high                                |
| P0180      | Fuel temperature sensor A circuit                                   |
| P0181      | Fuel temperature sensor A circuit range/performance                 |
| P0182      | Fuel temperature sensor A circuit - signal low                      |
| P0183      | Fuel temperature sensor A circuit - signal high                     |
| P0184      | Fuel temperature sensor A circuit intermittent                      |
| P0185      | Fuel temperature sensor B circuit                                   |
| P0186      | Fuel temperature sensor B circuit range/performance                 |
| P0187      | Fuel temperature sensor B circuit - signal low                      |
| P0188      | Fuel temperature sensor B circuit - signal high                     |
| P0189      | Fuel temperature sensor B circuit signal 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          |
| P0195      | Engine oil temperature sensor circuit                               |
| P0196      | Engine oil temperature sensor                                       |
| P0197      | Engine Oil Temperature Sensor Circuit - Low signal                  |
| P0198      | Engine Oil Temperature Sensor Circuit, High Input                   |
| P0199      | Engine oil temperature sensor circuit, intermittent                 |
| P0200      | Injector circuit                                                    |
| P0201      | Injectors                                                           |
| P0202      | Injector circuit 2                                                  |
| P0203      | Injector circuit 3                                                  |
| P0204      | Injector circuit 4                                                  |
| P0205      | Injector circuit 5                                                  |
| P0206      | Injector circuit 6                                                  |
| P0207      | Injector circuit 7                                                  |
| P0208      | Injector circuit 8                                                  |
| P0209      | Injector 9                                                          |
| P020A      | Injection timing - Cylinder 1                                       |
| P020B      | Injection timing - Cylinder 2                                       |

| ERROR CODE | ERROR                                                                   |
|------------|-------------------------------------------------------------------------|
| P020C      | Injection timing - Cylinder 3                                           |
| P020D      | Injection timing - Cylinder 4                                           |
| P020E      | Injection timing - Cylinder 5                                           |
| P020F      | Injection timing - Cylinder 6                                           |
| P0210      | Injector 10                                                             |
| P0211      | Injector 11                                                             |
| P0212      | Injector 12                                                             |
| P0213      | Cold Start Injector 1                                                   |
| P0214      | Cold Start Injector 2                                                   |
| P0215      | Engine Shutoff Solenoid circuit                                         |
| P0216      | Fuel injection timing                                                   |
| P0217      | Engine over temperature                                                 |
| P0218      | Transmission Over temperature                                           |
| P0219      | Engine overspeed condition                                              |
| P0220      | Throttle position sensor B                                              |
| P0221      | Throttle position sensor B, range/performance problem                   |
| P0222      | Throttle position sensor B circuit, input low                           |
| P0223      | Throttle position sensor B circuit, input high                          |
| P0224      | Throttle position sensor B, circuit intermittent                        |
| P0225      | Throttle position sensor C                                              |
| P0226      | Throttle position sensor C, range/performance problem                   |
| P0227      | Throttle position sensor C circuit, input low                           |
| P0228      | Throttle position sensor C circuit, input high                          |
| P0229      | Throttle position sensor 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 relay circuit                                                 |
| P0231      | Fuel pump relay control circuit - low voltage                           |
| P0232      | Fuel pump relay control circuit - high voltage                          |
| P0233      | Fuel pump relay - circuit intermittent                                  |
| P0234      | Engine supercharger condition - limit exceeded                          |
| 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                   |
| P023F      | Fuel Pump Secondary Circuit, Open                                       |
| P024A      | Charge air cooler bypass control A - range/performance.                 |
| P024B      | Charge air cooler bypass control A stuck                                |
| P024C      | Fault in the 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.              |
| 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                                 |

| ERROR CODE | ERROR                                         |
|------------|-----------------------------------------------|
| P0261      | Injector control circuit 1 - low voltage      |
| P0262      | Injector 1 control circuit - high voltage     |
| P0263      | Cylinder 1 injection / balance                |
| P0264      | Injector control circuit 2 - low voltage      |
| P0265      | Injector 2 control circuit - high voltage     |
| P0266      | Cylinder 2 injection / balance                |
| P0267      | Injector control circuit 3 - low voltage      |
| P0268      | Injector 3 control circuit - high voltage     |
| P0269      | Cylinder 3 injection / balance                |
| P0270      | Injector control circuit 4 - low voltage      |
| P0271      | Injector 4 control circuit - high voltage     |
| P0272      | Cylinder 4 injection / balance                |
| P0273      | Injector control circuit 5 - low voltage      |
| P0274      | Injector 5 control circuit - high voltage     |
| P0275      | Cylinder 5 injection/balance                  |
| P0276      | Injector control circuit 6 - low voltage      |
| P0277      | Injector 6 control circuit - high voltage     |
| P0278      | Cylinder 6 injection/balance                  |
| P0279      | Injector control circuit 7 - low voltage      |
| P0280      | Injector 7 control circuit - high voltage     |
| P0282      | Injector control circuit 8 - low voltage      |
| P0283      | Injector 8 control circuit - high voltage     |
| P0285      | Injector control circuit 9 - low voltage      |
| P0286      | Injector 9 control circuit - high voltage     |
| P0288      | Injector control circuit 10 - low voltage     |
| P0289      | Injector 10 control circuit - high voltage    |
| P0291      | Injector control circuit 11 - low voltage     |
| P0292      | Injector 11 control circuit - high voltage    |
| P0294      | Injector control circuit 12 - low voltage     |
| P0295      | Injector 12 control circuit - high voltage    |
| P0297      | Vehicle Overspeed Condition                   |
| P0298      | Engine Oil Over Temperature                   |
| P029A      | Cylinder 1 balancing - Fuel trim at max limit |
| P029B      | Cylinder 1 balancing - Fuel trim at min limit |
| P029C      | Cylinder 1 balancing - Injector restricted    |
| P029D      | Cylinder 1 balancing - Injector leaking       |
| P029E      | Cylinder 2 balancing - Fuel trim at max limit |
| P029F      | Cylinder 2 balancing - Fuel trim at min limit |
| P02A0      | Cylinder 2 balancing - Injector restricted    |
| P02A1      | Cylinder 2 balancing - Injector leaking       |
| P02A2      | Cylinder 3 balancing - Fuel trim at max limit |
| P02A3      | Cylinder 3 balancing - Fuel trim at min limit |
| P02A4      | Cylinder 3 balancing - Injector restricted    |
| P02A5      | Cylinder 3 balancing - Injector leaking       |
| P02A6      | Cylinder 4 balancing - Fuel trim at max limit |
| P02A7      | Cylinder 4 balancing - Fuel trim at min limit |
| P02A8      | Cylinder 4 balancing - Injector restricted    |
| P02A9      | Cylinder 4 balancing - Injector leaking       |
| P02AA      | Cylinder 5 balancing - Fuel trim at max limit |

| ERROR CODE | ERROR                                                        |
|------------|--------------------------------------------------------------|
| P02AB      | Cylinder 5 balancing - Fuel trim at min limit                |
| P02AC      | Cylinder 5 balancing - Injector restricted                   |
| P02AD      | Cylinder 5 balancing - Injector leaking                      |
| P02AE      | Cylinder 6 balancing - Fuel trim at max limit                |
| P02AF      | Cylinder 6 balancing - Fuel trim at min limit                |
| P02B0      | Cylinder 6 balancing - Injector restricted                   |
| P02B1      | Cylinder 6 balancing - Injector leaking                      |
| 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        |
| 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                |
| 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                                  |
| 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                           |
| P0317      | Rough Road Hardware Not Present                              |
| P0318      | Rough road sensor A                                          |
| P0319      | Rough road sensor B                                          |
| P0320      | Crankshaft position sensor (CKP)                             |
| P0321      | Crankshaft position sensor 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 bank 1                                          |
| P0326      | Knock Sensor 1 Circuit Range/Performance - (bank 1).         |
| P0327      | Knock Sensor Circuit bank 1 - low signal                     |
| P0328      | Knock sensor 1 circuit - high input (bank 1).                |
| P0329      | Knock sensor 1 - circuit intermittent (bank 1).              |

| ERROR CODE | ERROR                                                                         |
|------------|-------------------------------------------------------------------------------|
| P032A      | Knock sensor 3 - circuit                                                      |
| P032B      | Knock sensor 3 circuit, range/performance                                     |
| P032C      | Knock sensor 3 circuit, low                                                   |
| P032D      | Knock sensor 3 circuit, high                                                  |
| P032E      | Knock sensor 3 circuit, intermittent                                          |
| P0330      | Knock sensor 2 circuit (bank 2)                                               |
| P0331      | Knock sensor - 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 - intermittent circuit (Bank 2)                                |
| P0335      | Crankshaft position sensor                                                    |
| P0336      | Crankshaft position sensor circuit range/performance                          |
| P0337      | Crankshaft position sensor - signal too weak                                  |
| P0338      | Crankshaft position sensor - signal too strong                                |
| P0339      | Ignition/Distributor Engine Speed Input 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).                               |
| P0340      | Camshaft position sensor A signal (bank 1)                                    |
| P0341      | Camshaft Position Sensor A Circuit Range/Performance (Bank 1)                 |
| P0342      | Camshaft Position Sensor A Circuit - low input (bank 1 or single sensor).     |
| P0343      | Camshaft position sensor A - circuit high (bank 1 or single sensor).          |
| P0344      | Camshaft position sensor A - circuit intermittente (bank 1 or single sensor). |
| P0345      | Camshaft position sensor A signal (bank 2)                                    |
| P0346      | Camshaft position sensor circuit (bank 2) - range/performance                 |
| P0347      | Camshaft Position Sensor A Circuit, Low Input (Bank 2)                        |
| P0348      | Camshaft Position Sensor A Circuit, High Input (Bank 2)                       |
| P0349      | Camshaft position sensor A - circuit intermittent (bank 2).                   |
| P0350      | Ignition coil - primary/secondary circuit                                     |
| P0351      | Ignition coil A primary/secondary circuit malfunction                         |
| P0352      | Ignition coil B primary/secondary circuit malfunction                         |
| P0353      | Ignition coil C primary/secondary circuit malfunction                         |
| P0354      | Ignition coil D primary/secondary circuit malfunction                         |
| P0355      | Ignition coil E primary/secondary circuit malfunction                         |
| P0356      | Ignition coil F primary/secondary circuit malfunction                         |
| P0357      | Ignition coil G primary/secondary circuit malfunction                         |
| P0358      | Ignition coil H of the primary/secondary circuit malfunction                  |
| P0359      | Ignition coil I of the primary/secondary circuit                              |
| P0360      | Ignition coil J of the primary/secondary circuit                              |
| P0361      | Ignition coil K of the primary/secondary circuit                              |
| P0362      | Ignition coil L of the primary/secondary circuit                              |
| P0363      | Misfire detected - fueling disabled                                           |
| 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 Input (Bank 1)                        |
| P0368      | Camshaft Position Sensor B Circuit, High Input (Bank 1)                       |
| P0369      | CMP B sensor circuit signal intermittent (bank 1)                             |

| ERROR CODE | ERROR                                                                 |
|------------|-----------------------------------------------------------------------|
| 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                   |
| 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 - signal too weak                        |
| P0388      | Crankshaft Position Sensor B Circuit Low - signal too strong          |
| P0389      | Crankshaft Position Sensor B Circuit Intermittent                     |
| P0390      | Crankshaft position (bank 2, sensor B)                                |
| 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)              |
| 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                      |
| 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      | Catalyst System Efficiency Below Threshold (bank 1)                   |
| P0423      | Warm Up Catalyst Efficiency Below Threshold (bank 1)                  |
| P0424      | Heated Catalyst Temperature Below Threshold (bank 1)                  |
| P0425      | Catalyst Temperature Sensor (bank 1)                                  |
| P0426      | Catalyst Temperature Sensor Range/Performance (bank 1)                |
| P0427      | Catalyst temperature sensor (bank 1) - signal too weak                |
| P0428      | Catalyst temperature sensor (bank 1) - signal too strong              |
| P0429      | Catalyst heater control circuit (bank 1)                              |

| ERROR CODE | ERROR                                                                    |
|------------|--------------------------------------------------------------------------|
| P042A      | Catalyst temperature sensor circuit                                      |
| P042B      | Catalyst temperature sensor circuit, range/performance (sensor 1)        |
| P042C      | Catalyst temperature sensor circuit, low (sensor 1)                      |
| P042D      | Catalyst temperature sensor circuit, high (sensor 1)                     |
| P0430      | Catalyst System Efficiency Below Threshold (bank 2)                      |
| P0431      | Warm Up Catalyst Efficiency Below Threshold (bank 2)                     |
| P0432      | Catalyst System Efficiency Below Threshold (bank 2)                      |
| P0433      | Warm Up Catalyst Efficiency Below Threshold (bank 2)                     |
| P0434      | Heated Catalyst Temperature Below Threshold (bank 2)                     |
| P0435      | Catalyst Temperature Sensor (bank 2)                                     |
| P0436      | Catalyst Temperature Sensor Range/Performance (bank 2)                   |
| P0437      | Catalyst temperature sensor (bank 2) - signal too weak                   |
| P0438      | Catalyst temperature sensor (bank 2) - signal too strong                 |
| P0439      | Catalyst heater control circuit (bank 2)                                 |
| P043A      | Catalyst temperature sensor circuit                                      |
| P043B      | Catalyst temperature sensor circuit, range/performance (sensor 1)        |
| P043C      | Catalyst temperature sensor (low)                                        |
| P043D      | Catalyst temperature sensor (high)                                       |
| 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      | EVAP system purge fault                                                  |
| P0444      | Evaporative emissions purge valve                                        |
| P0445      | Evaporative emissions purge valve [short circuit]                        |
| P0446      | Evaporative emissions purge valve                                        |
| P0447      | Evaporative emissions purge valve [circuit open]                         |
| P0448      | Evaporative emissions purge valve [short circuit]                        |
| P0449      | Evaporative emissions purge valve                                        |
| P044F      | Switching valve circuit A secondary air injection, High                  |
| P0450      | Evaporative emission pressure sensor                                     |
| P0451      | Evaporative emissions system - pressure sensor 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                          |
| P0459      | Evaporative Emission System Purge Control Valve                          |
| P0460      | Fuel level sensor                                                        |
| P0461      | Fuel level sensor - range/performance                                    |
| P0462      | Fuel Level Sensor Circuit Low Input                                      |
| P0463      | Fuel Level Sensor Circuit High Input                                     |
| P0464      | Fuel Level Sensor Circuit - Intermittent                                 |
| P0465      | EVAP filter purge valve malfunction                                      |
| P0466      | Evaporative emissions purge valve - range/performance                    |
| P0467      | Evaporative emissions purge valve - signal too low                       |

| ERROR CODE | ERROR                                                                                |
|------------|--------------------------------------------------------------------------------------|
| P0468      | Evaporative emissions purge valve - signal too high                                  |
| P0469      | Evaporative emissions purge valve - intermittent                                     |
| P046A      | Catalyst temperature sensor 1/2 correlation                                          |
| P046B      | Catalyst temperature sensor 1/2 correlation                                          |
| P0470      | Exhaust gas pressure sensor circuit                                                  |
| P0471      | Exhaust gas pressure sensor - range/performance problem                              |
| P0472      | Exhaust gas pressure sensor - signal too weak                                        |
| P0473      | Exhaust gas pressure sensor - signal too strong                                      |
| P0474      | Intermittent signal for exhaust gas pressure sensor                                  |
| P0475      | Exhaust pressure control valve                                                       |
| P0476      | Exhaust pressure control valve - out of nominal range                                |
| P0477      | Exhaust pressure control valve - signal too weak                                     |
| P0478      | Exhaust pressure control valve - signal too strong                                   |
| P0479      | Exhaust pressure control valve - erratic error                                       |
| 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 Stuck Open                                            |
| P0480      | Cooling Fan 1 Control Circuit                                                        |
| P0481      | Cooling Fan 2 Control Circuit                                                        |
| P0482      | Cooling Fan 3 Control Circuit                                                        |
| P0483      | Cooling fan rationality check malfunction                                            |
| P0484      | Cooling Fan Circuit Over Current                                                     |
| P0485      | Fan Power/Ground Circuit                                                             |
| 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 CircuitRange/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 CircuitIntermittent/Erratic    |
| P0491      | Secondary air injection system (bank 1)                                              |
| P0492      | Secondary air injection system (bank 2)                                              |
| P0493      | Engine coolant fan motor - fan overspeed (clutch locked)                             |
| P0494      | Engine coolant fan motor - fan speed low                                             |
| P0495      | Engine coolant fan motor - 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                          |
| P049F      | Exhaust Gas Recirculation B Flow                                                     |
| P04AA      | Exhaust Pressure Control Valve B Position Sensor/Switch Circuit Intermittent/Erratic |
| P0500      | Vehicle speed sensor circuit (VSS)                                                   |
| P0501      | Vehicle Speed Sensor Range/Performance                                               |
| P0502      | Vehicle speed sensor - low input                                                     |
| P0503      | Vehicle speed sensor - intermittent/erratic/high                                     |
| P0504      | Brake Switch A/B correlation                                                         |

| ERROR CODE | ERROR                                                        |
|------------|--------------------------------------------------------------|
| P0505      | Idle air stepper motor                                       |
| 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 stepper motor                                       |
| 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                              |
| 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             |
| P051F      | Positive Crankcase Ventilation Filter Restriction            |
| P0520      | Engine oil pressure switch/sensor - 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 |
| P052B      | Cold Start A Camshaft Position Timing Over-Advanced - bank 2 |
| P052C      | Cold Start A Camshaft Position Timing Over-Advanced - bank 1 |
| P052D      | Cold Start A Camshaft Position Timing Over-Advanced - bank 2 |
| P052E      | Positive Crankcase Ventilation Regulator Valve Performance   |
| P053A      | Positive Crankcase Ventilation Heater Control - Circuit Open |
| P053B      | Positive Crankcase Ventilation Heater Control - Circuit Low  |
| P053C      | Positive Crankcase Ventilation Heater Control - Circuit High |
| P0540      | Intake Air Heater A Circuit                                  |
| P0541      | Intake Air Heater A Circuit - Low.                           |
| P0542      | Intake Air Heater A Circuit - high.                          |
| P0543      | Intake Air Heater A Circuit Open                             |

| ERROR CODE | ERROR                                                           |
|------------|-----------------------------------------------------------------|
| 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    |
| P054B      | Cold Start B Camshaft Position Timing Over-Advanced - bank 2    |
| P054C      | Cold Start B Camshaft Position Timing Over-Advanced - bank 1    |
| P054D      | Cold Start B Camshaft Position Timing Over-Advanced - bank 1    |
| P0550      | Power steering pressure/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              |
| P0560      | System voltage malfunction                                      |
| 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                       |
| 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                               |
| P0578      | Cruise Control Multi-Function Input Circuit Stuck               |
| P0579      | Cruise Control Multi-Function Input A Circuit Range/Performance |
| P0580      | Cruise Control Multi-Function Input A Circuit Low               |
| P0581      | Cruise Control Multi-Function Input A Circuit High              |
| 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                   |

| ERROR CODE | ERROR                                                            |
|------------|------------------------------------------------------------------|
| P0590      | Cruise Control Multi-Function Input 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                           |
| 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 unit - main processor 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      | PStarter 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                                 |

| ERROR CODE | ERROR                                                              |
|------------|--------------------------------------------------------------------|
| P0628      | Fuel Pump A Control Circuit Low                                    |
| P0629      | Fuel Pump A Control Circuit/Open                                   |
| 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                           |
| P0632      | Odometer Not Programmed or Incompatible - ECM/PCM                  |
| P0633      | Immobilizer Key Not Programmed - ECM/PCM                           |
| 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                               |
| 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                            |
| P0648      | Immobilizer Lamp Control Circuit                                   |
| P0649      | Speed Control Lamp Control Circuit                                 |
| P064A      | Fuel Pump Control Module                                           |
| P064C      | Glow Plug Control Module                                           |
| P064D      | Internal Control Module Oxygen Sensor Processor Performance Bank 1 |
| P064E      | Internal Control Module Oxygen 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                           |
| P065F      | Intake Manifold Tuning Valve Performance                           |
| P0660      | Intake Manifold Tuning Valve Control Circuit/Open (Bank 1)         |

| ERROR CODE | ERROR                                                                   |
|------------|-------------------------------------------------------------------------|
| P0661      | Intake Manifold Tuning Valve Control Circuit Low (Bank 1)               |
| P0662      | Intake Manifold Tuning Valve Control Circuit High (Bank 1)              |
| P0663      | Intake Manifold Tuning Valve Control Circuit/Open (Bank 2)              |
| P0664      | Intake Manifold Tuning Valve Control Circuit Low (Bank 2)               |
| P0665      | Intake Manifold Tuning Valve Control Circuit High (Bank 2)              |
| 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 circuit                                        |
| 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                                       |
| 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                               |
| 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 Sense Circuit Low                                   |
| P0687      | ECM/PCM Power Relay Control Circuit High                                |
| P0688      | ECM/PCM Power Relay Sense Circuit/Open                                  |
| P0689      | ECM/PCM Power Relay - Circuit Low                                       |
| P068A      | ECM/PCM Power Relay De-Energized Performance - Too Early                |
| P068B      | ECM/PCM Power Relay De-Energized Performance - Too Late                 |
| 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                                  |
| P0699      | Sensor Reference Voltage C Circuit High                                 |
| P069E      | Fuel Pump Control Module Requested MIL Illumination                     |
| P069F      | Throttle Actuator Control Lamp Control Circuit                          |
| 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                    |

| ERROR CODE | ERROR                                                                   |
|------------|-------------------------------------------------------------------------|
| P06A7      | Sensor Reference Voltage B Circuit Range/Performance                    |
| P06A8      | Sensor Reference Voltage C Circuit Range/Performance                    |
| P06A9      | Sensor Reference Voltage D Circuit Range/Performance                    |
| 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                          |
| 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                                          |
| P06D1      | Internal Control Module Ignition Coil Control Performance               |
| P0700      | Transmission Control System (MIL Request)                               |
| P0701      | Transmission Control System Range/Performance                           |
| P0702      | Transmission Control System Electrical                                  |
| P0703      | Brake Switch B 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                        |
| 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                                 |
| P0720      | Output Speed Sensor Circuit                                             |
| P0721      | Output Speed Sensor Circuit Range/Performance                           |
| P0722      | Output Speed Sensor Circuit No Signal                                   |

| ERROR CODE | ERROR                                                       |
|------------|-------------------------------------------------------------|
| 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                     |
| P072A      | Stuck in Neutral                                            |
| P072B      | Stuck In Reverse                                            |
| P0730      | Incorrect Gear 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                        |
| 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      | TCM Engine Speed Output Circuit                             |
| P0744      | Torque Converter Clutch Circuit Intermittent                |
| P074A      | Unable To Engage Gear 1                                     |
| 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                                     |
| P077A      | Output Speed Sensor Circuit - Loss of Direction Signal      |
| P077B      | Output Speed Sensor Circuit - Direction Error               |
| P0780      | Shift Error                                                 |
| P0781      | Gear shift 1-2                                              |
| P0782      | Gear shift 2-3                                              |
| P0783      | Gear shift 3-4                                              |
| P0784      | Gear shift 4-5                                              |
| P0785      | Shift Timing Solenoid A                                     |
| P0786      | Shift Timing Solenoid A Range/Performance                   |
| P0787      | Shift Timing Solenoid A Low                                 |
| 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                        |
| 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      |

| ERROR CODE | ERROR                                                          |
|------------|----------------------------------------------------------------|
| P0800      | Transfer Case Control System (MIL Request)                     |
| P0801      | Reverse Inhibit Control Circuit                                |
| P0802      | Transmission Control System MIL Request Circuit/Open           |
| 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               |
| 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                                   |
| 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                                    |
| P0826      | Up and Down Shift Switch Circuit                               |
| P0827      | Up and Down Shift Switch Circuit Low                           |
| P0828      | Up and Down Shift Switch Circuit High                          |
| 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                         |
| P0856      | Traction Control Input Signal                                  |
| P0857      | Traction Control Input Signal Range/Performance                |
| P0858      | Traction Control Input Signal Low                              |
| 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                        |
| 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      | Transmission control module (TCM) communication circuit - low  |
| P0866      | Transmission control module (TCM) communication circuit - high |

| ERROR CODE | ERROR                                                                    |
|------------|--------------------------------------------------------------------------|
| P0880      | Transmission control module power input signal                           |
| P0881      | Transmission control module (TCM) power input signal - range/performance |
| P0882      | Transmission control module (TCM) power input signal - low               |
| P0883      | Transmission control module (TCM) power input signal - high              |
| P0884      | Transmission control module (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                          |
| 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                                                      |
| P0898      | Transmission Control System MIL Request Circuit Low                      |
| P0899      | Transmission Control System MIL Request Circuit High                     |
| P0900      | Clutch Actuator Circuit/Open                                             |
| P0901      | Clutch Actuator Circuit Range/Performance                                |
| P0902      | Clutch Actuator Circuit Low                                              |
| P0903      | Clutch 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                                        |
| P0920      | Gear Shift Forward Actuator Circuit/Open                                 |
| 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, Open                  |
| P0929      | Gear Shift Lock Solenoid Circuit, Range/Performance                      |
| P092A      | Gear shift lock solenoid/actuator control circuit B, Open                |
| P092B      | Gear shift lock solenoid circuit B Range/Performance                     |
| P092C      | Gear shift lock solenoid/actuator control circuit B, low                 |
| P092D      | Gear shift lock solenoid circuit B, High                                 |
| P0930      | Gear Shift Lock Solenoid Circuit, Low                                    |
| P0931      | Gear Shift Lock Solenoid Circuit, High                                   |
| P0932      | Hydraulic pressure sensor circuit                                        |
| P0933      | Hydraulic pressure sensor, range/performance                             |
| P0934      | Hydraulic pressure sensor circuit, low input                             |
| P0935      | Hydraulic pressure sensor circuit, high input                            |

| ERROR CODE | ERROR                                                                    |
|------------|--------------------------------------------------------------------------|
| 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 Input                      |
| P0940      | Hydraulic Oil Temperature Sensor Circuit, High Input                     |
| 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 - range/performance                                 |
| P0947      | Hydraulic pump relay - circuit low                                       |
| P0948      | Hydraulic pump relay - circuit high                                      |
| 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 control circuit, open                     |
| P0A06      | Motor electronics coolant pump control - circuit low                     |
| P0A07      | Motor electronics coolant pump control - circuit high                    |
| 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                                                   |
| P0A14      | Engine mount A control circuit, open                                     |
| P0A15      | Engine mount control circuit - low                                       |
| P0A16      | Engine mount 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                                                 |
| 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                             |
| 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                        |

| ERROR CODE | ERROR                                                                           |
|------------|---------------------------------------------------------------------------------|
| P0A3B      | Alternator over-temperature                                                     |
| P0A3E      | Generator Inverter Over Temperature                                             |
| 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                                     |
| P0A59      | Generator Current Sensor Circuit                                                |
| P0A5A      | Generator Current Sensor Circuit Range/Performance                              |
| P0A5B      | Generator Current Sensor Circuit Low                                            |
| P0A5C      | Generator Current Sensor Circuit 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      | Alternator - Phase W - Current                                                  |
| P0A76      | Alternator - Phase W - Low current                                              |
| P0A77      | Alternator - Phase W - High current                                             |
| P0A7A      | Alternator inverter performance                                                 |
| P0A7B      | Battery Energy Control Module Requested MIL Illumination                        |
| P0A7C      | Motor Electronics Over Temperature                                              |
| P0A80      | Replace Hybrid Battery Pack                                                     |
| P0A92      | Hybrid Generator Performance                                                    |
| P0A93      | Inverter A Cooling System Performance                                           |
| P0A95      | High Voltage Fuse                                                               |
| 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                                                       |
| P0AC4      | Hybrid Powertrain Control Module Requested MIL Illumination                     |
| P0AFF      | System Voltage Too Low for Voltage Step Down Conversion                         |
| 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                           |
| 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              |
| P0C2F      | Internal Control Module Drive Motor/Generator - Engine Speed Sensor Performance |
| P0C31      | Inverter B Cooling System Performance                                           |

| ERROR CODE | ERROR                                                                            |
|------------|----------------------------------------------------------------------------------|
| 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                         |
| P0C73      | Motor Electronics Coolant Pump A Control Performance                             |
| P0C74      | Motor Electronics Coolant Pump B Control Performance                             |
| P0C7B      | Generator Inverter Voltage Too High                                              |
| 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)                               |
| P2005      | Intake Manifold Runner Control Stuck Open (Bank 2)                               |
| P2006      | Intake Manifold Runner Control Stuck Closed (Bank 1)                             |
| P2007      | Intake Manifold Runner Control Stuck Closed (Bank 2)                             |
| P2008      | Intake Manifold Runner Control Circuit/Open (Bank 1)                             |
| P2009      | Intake Manifold Runner Control Circuit Low (Bank 1)                              |
| P200A      | Intake Manifold Runner Performance, Bank 1                                       |
| P200B      | Intake Manifold Runner Performance, Bank 2                                       |
| P200E      | Catalyst temperature sensor (bank 1) - signal too strong                         |
| P200F      | Catalyst temperature sensor (bank 2) - signal too strong                         |
| P2010      | Intake Manifold Runner Control Circuit High (Bank 1)                             |
| P2011      | Intake Manifold Runner Control Circuit/Open (Bank 2)                             |
| P2012      | Intake Manifold Runner Control Circuit Low (Bank 2)                              |
| P2013      | Intake Manifold Runner Control Circuit High (Bank 2)                             |
| P2014      | Intake Manifold Runner Performance, Bank 1                                       |
| P2015      | Intake Manifold Runner Position Sensor/Switch Circuit Range/Performance (Bank 1) |
| P2016      | Intake Manifold Runner Control Circuit Low (Bank 1)                              |
| P2017      | Intake Manifold Runner Control Circuit High (Bank 1)                             |
| P2018      | Intake Manifold Runner Position Sensor/Switch Circuit Intermittent (Bank 1)      |
| P2019      | Intake Manifold Runner Performance, Bank 2                                       |
| P201A      | Reductant Injection Valve Circuit Range/Performance (Bank 2 Unit 1)              |
| P2020      | Intake Manifold Runner Position Sensor/Switch Circuit Range/Performance (Bank 2) |
| P2021      | Intake Manifold Runner Control Circuit Low (Bank 2)                              |
| P2022      | Intake Manifold Runner Control Circuit High (Bank 2)                             |
| P2023      | Intake Manifold Runner Position Sensor/Switch Circuit Intermittent (Bank 2)      |
| 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                                                       |

| ERROR CODE | ERROR                                                               |
|------------|---------------------------------------------------------------------|
| 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                 |
| 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 Tank 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                                   |
| 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                           |

| ERROR CODE | ERROR                                                                                   |
|------------|-----------------------------------------------------------------------------------------|
| P205B      | Reductant Temperature Sensor Circuit Range/Performance                                  |
| P205C      | Reductant Tank Temperature Sensor Circuit Low                                           |
| P205D      | Reductant Tank Temperature Sensor Circuit High                                          |
| P205E      | Reductant Temperature Sensor Circuit Intermittent                                       |
| 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 Runner Control Stuck Open (Bank 2)                                      |
| P206F      | Intake Manifold Runner Control Stuck Closed (Bank 2)                                    |
| P2070      | Intake Manifold Tuning (IMT) Valve Stuck Open                                           |
| P2071      | Intake Manifold Tuning (IMT) Valve Stuck Closed                                         |
| P2074      | Manifold Absolute Pressure/Mass Air Flow - Throttle Position Correlation at Higher Load |
| P2075      | Intake Manifold Tuning (IMT) Valve Position Sensor/Switch Circuit                       |
| P2076      | Intake Manifold Tuning (IMT) Valve Position Sensor/Switch Circuit - Range/Performance   |
| P2077      | Intake Manifold Tuning (IMT) Valve Position Sensor/Switch Circuit low                   |
| P2078      | Intake Manifold Tuning (IMT) Valve Position Sensor/Switch Circuit High                  |
| P2079      | Intake Manifold Tuning (IMT) Valve Position Sensor/Switch Circuit Intermittent          |
| P207A      | Intake Manifold Runner Performance, Bank 2                                              |
| P207B      | Intake Manifold Runner Position Sensor/Switch Circuit Range/Performance (Bank 2)        |
| P207C      | Intake Manifold Runner Control Circuit Low (Bank 2)                                     |
| P207D      | Intake Manifold Runner Control Circuit High (Bank 2)                                    |
| P207E      | Intake Manifold Runner Position Sensor/Switch Circuit Intermittent (Bank 2)             |
| 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                                 |
| P2089      | A Camshaft Position Actuator Control Circuit High Bank 1                                |
| P208A      | Reductant Pump Control Circuit/Open                                                     |

| ERROR CODE | ERROR                                                                   |
|------------|-------------------------------------------------------------------------|
| 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)               |
| P2091      | B Camshaft Position Actuator Control Circuit High (Bank 1)              |
| P2092      | A Camshaft Position Actuator Control Circuit Low (Bank 2)               |
| P2093      | A Camshaft Position Actuator Control Circuit High (Bank 2)              |
| P2094      | B Camshaft Position Actuator Control Circuit Low (Bank 2)               |
| P2095      | B Camshaft Position Actuator Control Circuit High (Bank 2)              |
| 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             |
| 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                                  |

| ERROR CODE | ERROR                                                                     |
|------------|---------------------------------------------------------------------------|
| 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               |
| P20D3      | Exhaust Aftertreatment Fuel Injector B Control Circuit Low                |
| P20D4      | Exhaust Aftertreatment Fuel Injector B Control Circuit High               |
| 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                   |
| 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      | Reductant Injection Air Pressure Too Low                                  |
| 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  |
| P20F4      | Reductant Consumption Too Low                                             |
| P20F5      | Reductant Consumption Too High                                            |

| ERROR CODE | ERROR                                                             |
|------------|-------------------------------------------------------------------|
| P20F6      | Reductant Injection Valve Stuck Open (Bank 1 Unit 1)              |
| P20F7      | Reductant Injection Valve Stuck Open (Bank 2 Unit 1)              |
| P2100      | Throttle Actuator A Control Motor Circuit/Open                    |
| P2101      | Throttle Actuator A Control Motor Circuit Range/Performance       |
| P2102      | Throttle Actuator A Control Motor Circuit Low                     |
| P2103      | Throttle Actuator A Control Motor Circuit High                    |
| P2104      | Throttle Actuator Control System - Forced Idle                    |
| P2105      | Throttle Actuator Control System - Forced Engine Shutdown         |
| P2106      | Throttle Actuator Control System - Forced Limited Power           |
| P2107      | Throttle Actuator Control Module Processor                        |
| P2108      | Throttle Actuator Control Module Performance                      |
| P2109      | Throttle/Pedal Position Sensor A Minimum Stop Performance         |
| P210A      | Throttle Actuator B Control Motor Circuit                         |
| P210B      | Throttle Actuator B Control Motor Circuit Range/Performance       |
| P210C      | Throttle Actuator B Control Motor Circuit Low                     |
| P210D      | Throttle Actuator B Control Motor Circuit High                    |
| P210E      | Throttle/Pedal Position Sensor/Switch C/F Voltage Correlation     |
| P210F      | Oxygen Sensor Signal Biased/Stuck Rich(bank 1 sensor 1)           |
| P2110      | Throttle Actuator Control System - Forced Limited RPM             |
| P2111      | Throttle Actuator Control System - Stuck Open                     |
| P2112      | Throttle Actuator Control System - Stuck Closed                   |
| 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         |
| P2119      | Throttle Actuator A Control Motor Circuit Range/Performance       |
| 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            |
| P2130      | Throttle/Pedal Position Sensor/Switch F Circuit                   |
| P2132      | Throttle/Pedal Position Sensor/Switch F Circuit Low               |
| P2133      | Throttle/Pedal Position Sensor/Switch F Circuit Intermittent      |
| P2134      | Throttle/Pedal Position Sensor/Switch A/B Voltage Correlation     |
| P2135      | Throttle/Pedal Position Sensor/Switch A/C Voltage Correlation     |
| P2137      | Throttle/Pedal Position Sensor/Switch D/E Voltage Correlation     |

| ERROR CODE | ERROR                                                            |
|------------|------------------------------------------------------------------|
| P2138      | Throttle/Pedal Position Sensor/Switch D/E Voltage Correlation    |
| P2139      | Throttle/Pedal Position Sensor/Switch D/F Voltage Correlation    |
| 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    |
| 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              |
| P214C      | Long-term adaptation fuel mixing - bank 1                        |
| P214D      | Long-term adaptation fuel mixing - bank 1                        |
| 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                     |
| P2160      | Vehicle Speed Sensor B Circuit Low                               |
| P2161      | Vehicle Speed Sensor B Intermittent/Erratic/High                 |
| P2162      | Vehicle Speed Sensor A/B Correlation                             |
| 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                                  |
| P2178      | System Too Rich Off Idle Bank 1                                  |

| ERROR CODE | ERROR                                                            |
|------------|------------------------------------------------------------------|
| P2179      | System Too Lean Off Idle Bank 2                                  |
| 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                                  |
| 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)                                 |
| 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      | Oxygen Sensor Signal Biased/Stuck Lean (Bank 1 Sensor 1)         |
| P2196      | Oxygen Sensor Signal Biased/Stuck Rich (Bank 1 Sensor 1)         |
| P2197      | Oxygen Sensor Signal Biased/Stuck Lean (Bank 2 Sensor 1)         |
| P2198      | Oxygen Sensor Signal Biased/Stuck Rich (Bank 2 Sensor 1)         |
| P2199      | Intake Air Temperature Sensor 1/2 Correlation                    |
| P21AC      | Long-term fuel correction under too high load (Bank 1)           |
| P21AD      | Long-term fuel correction under too lean load (Bank 1)           |
| P21CC      | Long-term fuel correction at minimum too rich (Bank 1)           |
| P21CD      | Long-term fuel correction at idle too low (Bank 1)               |
| P21E0      | Long-term fuel correction - not plausible signal (Bank 1)        |
| P21EB      | Long-term fuel correction - no signal (Bank 1)                   |
| P21EC      | Long-term fuel correction - high signal (Bank 1)                 |
| P21ED      | Long-term fuel correction - low signal (Bank 1)                  |
| P2226      | Barometric pressure sensor circuit                               |
| P2227      | Barometric pressure sensor circuit, range/performance            |
| P2228      | Barometric pressure sensor circuit, low                          |
| P2229      | Barometric pressure sensor circuit, high                         |
| P222A      | Barometric pressure sensor B circuit out of nominal range        |
| P222B      | Barometric pressure sensor B circuit low                         |
| P222C      | Barometric pressure sensor B circuit high                        |
| P222D      | Barometric pressure sensor B circuit intermittent/erratic        |
| P222E      | Barometric pressure sensor A/B correlation                       |
| P2230      | Barometric pressure sensor - circuit intermittent                |
| P2231      | Heated oxygen sensor heater (HO2S) Bank 1 Sensor 1               |
| P2232      | Heated oxygen sensor heater (HO2S) Bank 1 Sensor 2               |
| P2233      | Heated oxygen sensor heater (HO2S) Bank 1 Sensor 3               |
| P2234      | Heated oxygen sensor heater (HO2S) Bank 2 Sensor 1               |

| ERROR CODE | ERROR                                                            |
|------------|------------------------------------------------------------------|
| P2235      | Heated oxygen sensor heater (HO2S) Bank 2 Sensor 2               |
| P2236      | Heated oxygen sensor heater (HO2S) Bank 2 Sensor 3               |
| P2237      | Heated oxygen sensor current (bank 1 sensor 1)                   |
| P2238      | Heated oxygen sensor current (bank 1 sensor 1)                   |
| P2239      | Heated oxygen sensor current (bank 1 sensor 1)                   |
| P2240      | Heated oxygen sensor current (bank 2 sensor 1)                   |
| P2241      | Heated oxygen sensor current (bank 2 sensor 1)                   |
| P2242      | Heated oxygen sensor current (bank 2 sensor 1)                   |
| P2243      | Oxygen sensor reference voltage circuit (Bank 1 sensor 1)        |
| P2244      | Oxygen sensor reference voltage, Performance - Bank 1, Sensor 1  |
| P2245      | Oxygen sensor reference voltage circuit low - Bank 1, Sensor 1   |
| P2246      | Oxygen sensor reference voltage circuit, high - Bank 1 Sensor 1  |
| P2247      | Oxygen sensor reference voltage circuit, open - Bank 2, Sensor 1 |
| P2248      | Oxygen sensor reference voltage, Performance - Bank 2, Sensor 1  |
| P2249      | Oxygen sensor reference voltage circuit, low- Bank 2 Sensor 1    |
| P224F      | Barometric pressure sensor "B" circuit                           |
| P2250      | Oxygen sensor reference voltage circuit, high - Bank 2 Sensor 1  |
| P2251      | Heated oxygen sensor current (bank 1 sensor 1)                   |
| P2252      | Heated oxygen sensor current (bank 1 sensor 1)                   |
| P2253      | Heated oxygen sensor current (bank 1 sensor 1)                   |
| P2254      | Heated oxygen sensor current (bank 2 sensor 1)                   |
| P2255      | Heated oxygen sensor current (bank 2 sensor 1)                   |
| P2256      | Heated oxygen sensor current (bank 2 sensor 1)                   |
| 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             |
| P2260      | Secondary Air Injection System Control B Circuit High            |
| 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                               |
| P2270      | Oxygen Sensor Signal Biased/Stuck Lean (Bank 1 Sensor 2)         |
| P2271      | Oxygen Sensor Signal Biased/Stuck Rich (Bank 1 Sensor 2)         |
| P2272      | Oxygen Sensor Signal Biased/Stuck Lean (Bank 2 Sensor 2)         |
| P2273      | Oxygen Sensor Signal Biased/Stuck Rich (Bank 2 Sensor 2)         |
| P2274      | Oxygen Sensor Signal Biased/Stuck Lean (Bank 1 Sensor 3)         |
| P2275      | Oxygen Sensor Signal Biased/Stuck Rich (Bank 1 Sensor 3)         |
| P2276      | Oxygen Sensor Signal Biased/Stuck Lean (Bank 2 Sensor 3)         |
| P2277      | Oxygen Sensor Signal Biased/Stuck Rich (Bank 2 Sensor 3)         |
| P2278      | Oxygen Sensor Signals Swapped (Bank 1 Sensor 3)                  |
| P2279      | Intake Air System Leak                                           |
| 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            |

| ERROR CODE | ERROR                                                                 |
|------------|-----------------------------------------------------------------------|
| 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          |
| 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      | Oxygen Sensor Out of Range During Deceleration (Bank 1 Sensor 2)      |
| P2298      | Oxygen Sensor Out of Range During Deceleration (Bank 2 Sensor 1)      |
| P229A      | Fuel Pressure Regulator Exceeded Control Limits - Pressure Too Low    |
| P229B      | Fuel Pressure Regulator Exceeded Control Limits - Pressure Too High   |
| P229C      | Fuel Pressure Regulator Exceeded Learning Limits - Too Low            |
| P229D      | Fuel Pressure Regulator Exceeded Learning Limits - Too High           |
| P2300      | Ignition coils                                                        |
| P2301      | Ignition coils                                                        |
| 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                           |
| 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                          |
| 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                           |

| ERROR CODE | ERROR                                                                                |
|------------|--------------------------------------------------------------------------------------|
| P2328      | Ignition Coil J Primary Control Circuit High                                         |
| P2329      | Ignition Coil J Secondary Circuit                                                    |
| 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                                                     |
| P2340      | Cylinder 5 above knock threshold                                                     |
| P2341      | Cylinder 6 above knock threshold                                                     |
| 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 problem                          |
| P240A      | Evaporative emission system leak detection pump heater - circuit open                |
| P240B      | Evaporative emission system leak detection pump heater - circuit low                 |
| P240C      | Evaporative emission system leak detection pump heater - circuit high                |
| P2410      | Fuel cap sensor / switch circuit low                                                 |
| P2411      | Fuel cap sensor / switch circuit high                                                |
| P2412      | Fuel Cap Sensor/Switch Circuit Intermittent/Erratic                                  |
| P2414      | Oxygen Sensor Exhaust Sample Error (Bank 1 Sensor 1)                                 |
| P2415      | Oxygen Sensor Exhaust Sample Error (Bank 1 Sensor 1)                                 |
| P2416      | Oxygen Sensor Exhaust Sample Error (Bank 2 Sensor 1)                                 |
| P2417      | Oxygen Sensor Exhaust Sample Error (bank 2, sensor 2)                                |
| P2418      | Evaporative Emission System Switching Valve Control Circuit, Open                    |
| P2419      | Evaporative Emission System Switching Valve Control - Circuit Low                    |
| P2420      | Evaporative Emission System Switching Valve Control Circuit High                     |
| P2421      | Evaporative emission system switching valve - performance or 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                             |
| P2428      | Exhaust gas temperature too high (bank 1)                                            |
| 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          |

| ERROR CODE | ERROR                                                                                           |
|------------|-------------------------------------------------------------------------------------------------|
| 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 - intermittent/erratic circuit (Bank 1) |
| P2435      | Secondary air injection system - insufficient air flow (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 - intermittent/erratic circuit (Bank 2) |
| 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)                                        |
| P2450      | Evaporative emission system switching valve - performance or stuck open                         |
| 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.                  |
| P246E      | Exhaust gas temperature sensor circuit (bank 1, sensor 4)                                       |
| P246F      | Exhaust gas temperature sensor circuit out of range (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 Bank 1 Sensor 4                             |
| P2473      | Exhaust gas temperature sensor circuit (bank 2, sensor 4)                                       |
| P2474      | Exhaust gas temperature sensor circuit out of range (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 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 (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                                     |

| ERROR CODE | ERROR                                                                       |
|------------|-----------------------------------------------------------------------------|
| P2483      | Exhaust Gas Temperature Sensor Circuit Range/Performance Bank 1 Sensor 5    |
| P2484      | Exhaust Gas Temperature Sensor Circuit Intermittent/Erratic Bank 1 Sensor 5 |
| 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 |
| 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                                                  |
| P2506      | ECM/PCM Power Input Signal Range/Performance                                |
| P2507      | ECM/PCM Power Input Signal Low                                              |
| P2508      | ECM/PCM Power Input Signal High                                             |
| P2509      | ECM/PCM Power Input Signal Intermittent                                     |
| P250A      | Engine oil level sensor circuit                                             |
| P250A      | Long term fuel trim - range/performance                                     |
| 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      | Engine oil level sensor - circuit low                                       |
| P2514      | Engine oil level sensor - 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                       |
| 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 sensor - 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                              |

| ERROR CODE | ERROR                                                                 |
|------------|-----------------------------------------------------------------------|
| P2538      | Ignition Switch Accessory Position Circuit High                       |
| P2539      | Low Pressure Fuel System Sensor Circuit                               |
| 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            |
| 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                     |
| P2560      | Engine Coolant Level Sensor/Switch Circuit                            |
| 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 |
| 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                                       |
| 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                     |
| P258A      | Vacuum Pump Control Circuit/Open                                      |
| P258B      | Vacuum Pump Control Range/Performance                                 |
| P258C      | Vacuum Pump Control Circuit Low                                       |
| P258D      | Vacuum Pump Control Circuit High                                      |
| P258F      | Torque Management Request Output Signal                               |
| P2591      | Cruise Control Front Distance Range Sensor Left                       |
| P2592      | Cruise Control Front Distance Range Sensor Right                      |
| P2600      | Coolant Pump A Control Circuit/Open                                   |
| P2601      | Coolant Pump A Control Circuit Range/Performance                      |
| P2602      | Coolant Pump A Control Circuit Low                                    |

| ERROR CODE | ERROR                                                             |
|------------|-------------------------------------------------------------------|
| P2603      | Coolant Pump A Control Circuit High                               |
| P2604      | Intake Air Heater A Circuit Range/Performance                     |
| P2605      | Intake Air Heater A Circuit Open                                  |
| P2606      | Intake Air Heater B Circuit Range/Performance                     |
| P2607      | Intake Air Heater B Circuit Low                                   |
| P2608      | Intake Air Heater B Circuit High                                  |
| P2609      | Intake Air Heater System Performance                              |
| 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                               |
| 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                  |
| P2626      | Oxygen Sensor Pumping Current Trim Circuit/Open (Bank 1 Sensor 1) |
| P2627      | Oxygen Sensor Pumping Current Trim Circuit Low (Bank 1 Sensor 1)  |
| P2628      | Oxygen Sensor Pumping Current Trim Circuit High (Bank 1 Sensor 1) |
| P2629      | Oxygen Sensor Pumping Current Trim Circuit/Open (Bank 2 Sensor 1) |
| P2630      | Oxygen Sensor Pumping Current Trim Circuit Low (Bank 2 Sensor 1)  |
| P2631      | Oxygen 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                           |
| 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                 |
| P2646      | A Rocker Arm Actuator System Performance/Stuck Off Bank 1         |

| ERROR CODE | ERROR                                                                     |
|------------|---------------------------------------------------------------------------|
| P2647      | A Rocker Arm Actuator System Stuck On Bank 1                              |
| P2648      | A Rocker Arm Actuator Control Circuit Low Bank 1                          |
| P2649      | A Rocker Arm Actuator Control Circuit High Bank 1                         |
| P264A      | A Rocker Arm Actuator Position Sensor Circuit Bank 1                      |
| P264B      | A Rocker Arm Actuator Position Sensor Circuit Range/Performance Bank 1    |
| P264C      | A Rocker Arm Actuator Position Sensor Circuit Low Bank 1                  |
| P264D      | A Rocker Arm Actuator Position Sensor Circuit High Bank 1                 |
| P264E      | A Rocker Arm Actuator Position Sensor Circuit Intermittent/Erratic Bank 1 |
| P2650      | B Rocker Arm Actuator Control Circuit/Open Bank 1                         |
| P2651      | B Rocker Arm Actuator System Performance/Stuck Off Bank 1                 |
| P2652      | B Rocker Arm Actuator System Stuck On Bank 1                              |
| P2653      | B Rocker Arm Actuator Control Circuit Low Bank 1                          |
| P2654      | B Rocker Arm Actuator Control Circuit High Bank 1                         |
| P2655      | A Rocker Arm Actuator Control Circuit/Open Bank 2                         |
| P2656      | A Rocker Arm Actuator System Performance/Stuck Off Bank 2                 |
| P2657      | A Rocker Arm Actuator System Stuck On Bank 2                              |
| P2658      | A Rocker Arm Actuator Control Circuit Low Bank 2                          |
| P2659      | A Rocker Arm Actuator Control Circuit High Bank 2                         |
| P265A      | B Rocker Arm Actuator Position Sensor Circuit Bank 1                      |
| P265B      | B Rocker Arm Actuator Position Sensor Circuit Range/Performance Bank 1    |
| P265C      | B Rocker Arm Actuator Position Sensor Circuit Low Bank 1                  |
| P265D      | B Rocker Arm Actuator Position Sensor Circuit High Bank 1                 |
| P265E      | B Rocker Arm Actuator Position Sensor Circuit Intermittent/Erratic Bank 1 |
| P2660      | B Rocker Arm Actuator Control Circuit/Open Bank 2                         |
| P2661      | B Rocker Arm Actuator System Performance/Stuck Off Bank 2                 |
| P2662      | B Rocker Arm Actuator System Stuck On Bank 2                              |
| P2663      | B Rocker Arm Actuator Control Circuit Low Bank 2                          |
| P2664      | B Rocker Arm Actuator Control Circuit High Bank 2                         |
| 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                      |
| P266B      | A Rocker Arm Actuator Position Sensor Circuit Range/Performance Bank 2    |
| P266D      | A Rocker Arm Actuator Position Sensor Circuit High Bank 2                 |
| P266E      | A Rocker Arm Actuator Position Sensor Circuit Intermittent/Erratic Bank 2 |
| 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                               |
| P2678      | Coolant Degassing Valve Control Circuit/Open                              |
| P2679      | Coolant Degassing Valve Control Circuit Low                               |
| P267A      | B Rocker Arm Actuator Position Sensor Circuit Bank 2                      |
| P267B      | B Rocker Arm Actuator Position Sensor Circuit Range/Performance Bank 2    |
| P267C      | B Rocker Arm Actuator Position Sensor Circuit Low Bank 2                  |
| P267D      | B Rocker Arm Actuator Position Sensor Circuit High Bank 2                 |
| P267E      | B Rocker Arm Actuator Position Sensor Circuit Intermittent/Erratic Bank 2 |

| ERROR CODE | ERROR                                                                                   |
|------------|-----------------------------------------------------------------------------------------|
| 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                                                   |
| P268E      | Cylinder 3 Injector Data Incompatible                                                   |
| P268F      | Cylinder 4 Injector Data Incompatible                                                   |
| P2690      | Cylinder 5 Injector Data Incompatible                                                   |
| P2691      | Cylinder 6 Injector Data Incompatible                                                   |
| P2696      | Injector Data Incompatible                                                              |
| P2697      | Exhaust Aftertreatment Fuel Injector A Control Circuit/Open                             |
| P2698      | Exhaust Aftertreatment Fuel Injector A Control Performance                              |
| P2699      | Exhaust Aftertreatment Fuel Injector A Control Circuit Low                              |
| P269A      | Exhaust Aftertreatment Fuel Injector A Control 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                                           |
| P2711      | Unexpected Mechanical Gear Disengagement                                                |
| P2712      | Hydraulic Power Unit Leakage                                                            |
| 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                                  |
| P2749      | Intermediate Shaft Speed Sensor C Circuit                                               |
| 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                                  |
| 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            |
| P2760      | Torque Converter Clutch Pressure Control Solenoid Control Circuit Intermittent          |
| P2761      | Torque Converter Clutch Pressure Control Solenoid Control Circuit/Open                  |

| ERROR CODE | ERROR                                                                               |
|------------|-------------------------------------------------------------------------------------|
| 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                                                 |
| P2770      | Torque Converter Clutch Circuit High                                                |
| 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                                                         |
| 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/irregular                                   |
| 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                                                   |
| P279A      | Transfer Case Gear High Incorrect Ratio                                             |
| P279B      | Transfer Case Gear Low Incorrect Ratio                                              |
| P279C      | Transfer Case Gear Neutral Incorrect Ratio                                          |
| 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                                                 |
| P280A      | Transmission Range Sensor A Circuit Not Learned                                     |
| P280B      | Transmission Range Sensor B Circuit Not Learned                                     |
| 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                                         |
| P2A00      | Oxygen Sensor Circuit Range/Performance (Bank 1, Sensor 1)                          |
| P2A01      | Oxygen Sensor Circuit Range/Performance (Bank 1, Sensor 2)                          |

| ERROR CODE | ERROR                                                            |
|------------|------------------------------------------------------------------|
| P2A02      | Oxygen Sensor Circuit Range/Performance (Bank 1, Sensor 3)       |
| P2A03      | Oxygen Sensor Circuit Range/Performance (Bank 2, Sensor 1)       |
| P2A04      | Oxygen Sensor Circuit Range/Performance (Bank 2, Sensor 2)       |
| P2A05      | Oxygen Sensor Circuit Range/Performance (Bank 1, Sensor 3)       |
| P2A06      | Oxygen Sensor Negative Voltage Bank 1 Sensor 1                   |
| P2A07      | Oxygen Sensor Negative Voltage - Bank 1 Sensor 2                 |
| P2A08      | Oxygen Sensor Negative Voltage - Bank 1 Sensor 3                 |
| P2A09      | Oxygen Sensor Negative Voltage - Bank 2 Sensor 1                 |
| P2A10      | Oxygen Sensor Negative Voltage - Bank 2 Sensor 2                 |
| P2A11      | Oxygen Sensor Negative Voltage - Bank 2 Sensor 3                 |
| P3000      | Manufacturer Controlled DTC, bank 1                              |
| P3100      | Manufacturer Controlled                                          |
| P3200      | Manufacturer Controlled                                          |
| P3300      | Manufacturer Controlled                                          |
| P3400      | Cylinder deactivation system                                     |
| 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        |
| 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        |
| P3418      | Cylinder 3 Deactivation/Intake Valve Control Circuit Performance |
| P3419      | Cylinder 3 Deactivation/Intake Valve Control Circuit Low         |
| 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                  |
| 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 |

| ERROR CODE | ERROR                                                            |
|------------|------------------------------------------------------------------|
| 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                   |
| 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                  |
| P3497      | Cylinder deactivation system bank 2                              |

**11.2.2 ABS module error code table**

| ERROR CODE | ERROR                                                                                                       | ADDITIONAL DESCRIPTION  |
|------------|-------------------------------------------------------------------------------------------------------------|-------------------------|
| C1013      | Rear suction valve                                                                                          |                         |
| C1014      | Internal error: solenoid valve relay fault                                                                  |                         |
| C1014      | Rear exhaust valve                                                                                          |                         |
| C1015      | Internal error: recirculation pump failure                                                                  |                         |
| C1017      | Front suction valve                                                                                         |                         |
| C1018      | Front exhaust valve                                                                                         |                         |
| C1019      | Valve relay error                                                                                           |                         |
| C1021      | Internal error: control unit failure                                                                        |                         |
| C1024      | Speed comparison between front and rear wheel: excessive difference                                         |                         |
|            | Deviazione sensore di velocità ruote                                                                        |                         |
| C1025      | Wheel speed sensor deviation                                                                                |                         |
| C1031      | Rear wheel speed sensor: electrical diagnosis (circuit open or shorted to negative or shorted to positive)  |                         |
| C1032      | Rear wheel speed sensor: functional diagnosis (not plausible signal)                                        |                         |
| C1033      | Front wheel speed sensor: electrical diagnosis (circuit open or shorted to negative or shorted to positive) |                         |
| C1034      | Front wheel speed sensor: functional diagnosis (not plausible signal)                                       |                         |
| C1035      | Pump motor                                                                                                  | Malfunction             |
| C1042      | Front wheel speed sensor                                                                                    | Not plausible           |
| C1043      | Front wheel speed sensor                                                                                    | Short circuit to ground |
| C1044      | Rear wheel speed sensor                                                                                     | Not plausible           |
| C1045      | Rear wheel speed sensor                                                                                     | Short circuit to ground |
| C1048      | Internal error: rear circuit output solenoid valve fault                                                    |                         |
| C1049      | Internal error: front circuit output solenoid valve fault                                                   |                         |
| C1052      | Internal error: rear circuit in/out solenoid valve fault                                                    |                         |
| C1052      | Supply voltage (low voltage)                                                                                |                         |
| C1053      | Supply voltage (high voltage)                                                                               |                         |
| C1054      | Internal error: front circuit input solenoid valve fault                                                    |                         |
| C1055      | Control unit malfunction                                                                                    |                         |
| C1058      | Supply voltage (low voltage)                                                                                |                         |
| C1059      | Supply voltage (high voltage)                                                                               |                         |
| C1089      | Coding error                                                                                                |                         |
| C1092      | IMU sensor [Wrong fitting]                                                                                  |                         |
| C1094      | IMU Sensor [Wrong Signal]                                                                                   |                         |
| C1331      | Internal error: pressure sensor failure                                                                     |                         |
| C1332      | Internal error: pressure sensor failure (offset)                                                            |                         |
| C1333      | Internal error: pressure sensor failure (power supply)                                                      |                         |
| C1E11      | CAN line                                                                                                    | bus off                 |
| C1E12      | CAN message (ABS mode switching) absent                                                                     |                         |
| C1E13      | CAN bus checksum anomaly                                                                                    |                         |
| C1E14      | Signal anomaly caused by checksum error/stall counter                                                       |                         |
| C1E15      | CAN line                                                                                                    | ABS mode switch         |
| C1E16      | CAN line                                                                                                    | Vehicle code            |
| C1E17      | CAN bus time out combined instrument                                                                        |                         |
| C1E59      | Incorrect control unit coding                                                                               |                         |
| C1D90      | Front speed sensor                                                                                          | Electric malfunction    |

| ERROR CODE | ERROR                                                   | ADDITIONAL DESCRIPTION                                                  |
|------------|---------------------------------------------------------|-------------------------------------------------------------------------|
| C1D91      | Front speed sensor                                      | The signal changes intermittently                                       |
| C1D92      | Front speed sensor                                      | The signal decays periodically                                          |
| C1D93      | Front speed sensor                                      | Lack of signal or speed detected too low with respect to the rear wheel |
| C1D94      | Front speed sensor                                      | No acceleration after pressure reduction                                |
| C1D95      | Front speed sensor                                      | Excessive speed detected                                                |
|            | Sensore di velocità posteriore                          | Malfunzionamento elettrico                                              |
| C1D9A      | Front wheel pressure sensor circuit                     |                                                                         |
| C1DA0      | Rear speed sensor                                       | Electric malfunction                                                    |
| C1DA1      | Rear speed sensor                                       | The signal changes intermittently                                       |
| C1DA2      | Rear speed sensor                                       | The signal decays periodically                                          |
| C1DA3      | Rear speed sensor                                       |                                                                         |
| C1DA4      | Rear speed sensor                                       | Signal not plausible                                                    |
| C1DAA      | Rear wheel pressure sensor circuit                      |                                                                         |
| C1DD3      | ECU software error                                      |                                                                         |
| C1DF0      | Recirculation pump                                      |                                                                         |
| C1DF1      | Recirculation pump                                      |                                                                         |
| C1DF2      | Generic hardware error inside the control unit          |                                                                         |
| C1DF4      | Low electric voltage                                    |                                                                         |
| C1DF5      | Generic hardware error inside the control unit          |                                                                         |
| C1DF7      | High electric voltage                                   |                                                                         |
| C1E5A      | ABS switch                                              | Failuire                                                                |
| U1347      | CAN transmission error                                  | Timeout                                                                 |
| U2921      | CAN error: controller error                             |                                                                         |
| U2922      | CAN error: line fault (bus off)                         |                                                                         |
| U2924      | CAN error: no reception from the dashboard              |                                                                         |
| U2925      | CAN error: no reception from the injection control unit |                                                                         |
| U2926      | Key + (connect to the injection control unit diagnosis) |                                                                         |
| U2927      | Key - (connect to the injection control unit diagnosis) |                                                                         |
| U2928      | IMU sensor [Signal not plausible]                       |                                                                         |
| U2929      | IMU sensor [Timeout]                                    |                                                                         |
| U3930      | On board network undervoltage                           |                                                                         |
| U3931      | On board network overvoltage                            |                                                                         |
| U3932      | CAN message                                             | Timeout                                                                 |
| U3933      | CAN message                                             | Timeout / Wrong DLC / Checksum / Corrupt Data / Counter                 |
| U3934      | CAN message                                             | Timeout                                                                 |
| U3935      | CAN message                                             | Signal error                                                            |
| U301F      | Generic hardware error inside the control unit          |                                                                         |
| U30CB      | PIN code check                                          | KL 30 voltage too low                                                   |