

## MCM Fault Code List

| J1939 SPN | FMI | PID/SID | J1587 | FLASH | SERVICE DESCRIPTION                                   |
|-----------|-----|---------|-------|-------|---|
| 27        | 4   | PID     | 27    | 1111  | EGR Valve Position Circuit Failed Low                 |
| 27        | 3   | PID     | 27    | 1111  | EGR Valve Position Circuit Failed High                |
| 27        | 2   | SID     | 146   | 1111  | EGR Valve Position Feedback Failed                    |
| 27        | 0   | SID     | 146   | 1111  | EGR Valve Position Feedback Failed (High Box)         |
| 27        | 1   | SID     | 146   | 1111  | EGR Valve Position Feedback Failed (Low Box)          |
| 27        | 14  | SID     | 146   | 1111  | EGR Valve Position Positive Torque Error              |
| 27        | 7   | PID     | 27    | 1111  | EGR Valve Stuck Open                                  |
| 51        | 4   | SID     | 51    | 1112  | Intake Air Throttle Circuit Failed Low                |
| 51        | 3   | SID     | 51    | 1112  | Intake Air Throttle Circuit Failed High               |
| 51        | 2   | PID     | 51    | 1112  | Intake Throttle Position Deviation Error              |
| 51        | 0   | PID     | 51    | 1112  | Intake Air Throttle Position Low                      |
| 51        | 1   | PID     | 51    | 1112  | Intake Air Throttle Position High                     |
| 51        | 7   | PID     | 51    | 1112  | Intake Throttle Auto Calibration Error                |
| 94        | 4   | PID     | 94    | 1112  | Fuel Compensation Pressure Sensor Circuit Failed Low  |
| 94        | 3   | PID     | 94    | 1112  | Fuel Compensation Pressure Sensor Circuit Failed High |
| 98        | 4   | PID     | 98    | 1114  | Oil Level Circuit Failed Low                          |
| 98        | 3   | PID     | 98    | 1114  | Oil Level Circuit Failed High                         |
| 98        | 13  | PID     | 98    | 1634  | Oil Level Measurement; Configuration Error            |
| 98        | 14  | PID     | 98    | 1634  | Oil Level Measurement; Oil Level Too Low or Too High  |
| 100       | 4   | PID     | 100   | 1114  | Engine Oil Pressure Circuit Failed Low                |
| 100       | 3   | PID     | 100   | 1114  | Engine Oil Pressure Circuit Failed High               |
| 100       | 1   | PID     | 100   | 1114  | Engine Oil Pressure Low                               |
| 100       | 2   | PID     | 100   | 1114  | Oil Pressure Plausibility - Engine Running            |
| 100       | 20  | PID     | 100   | 1114  | Oil Pressure Plausibility - Stop                      |
| 103       | 2   | PID     | 103   | 1115  | Turbocharger Speed Not Plausible                      |
| 103       | 1   | PID     | 103   | 1115  | Turbo Charger Speed Below Threshold (High Box)        |
| 103       | 0   | PID     | 103   | 1115  | Turbo Charger Speed Above Threshold (Low Box)         |
| 103       | 4   | PID     | 103   | 1115  | Turbo Charger Speed Sensor Circuit Failed Low         |
| 103       | 3   | PID     | 103   | 1115  | Turbo Charger Speed Sensor Circuit Failed High        |
| 108       | 4   | PID     | 108   | 1211  | Barometric Pressure Circuit Failed Low                |
| 108       | 3   | PID     | 108   | 1211  | Barometric Pressure Circuit Failed High               |
| 108       | 2   | PID     | 108   | 1211  | Ambient Pressure Plausibility Fault (High Box) 1      |
| 108       | 20  | PID     | 108   | 1211  | Ambient Pressure Plausibility Fault (High Box) 2      |
| 110       | 4   | PID     | 110   | 1212  | Engine Coolant Outlet Temperature Circuit Failed Low  |

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| 110 | 3  | PID | 110 | 1212 | Engine Coolant Outlet Temperature Circuit Failed High           |
| 110 | 0  | PID | 110 | 1212 | Coolant Temperature High  |
| 110 | 14 | PID | 110 | 1212 | Coolant Temperature / Engine Oil Temperature Plausibility Fault |
| 110 | 2  | PID | 110 | 1212 | Engine Coolant Sensor (OUT); General Temp. Plausibility Error   |
| 132 | 7  | PID | 132 | 1213 | Intake Air Throttle Valve Closure Detection- Positive Torque    |
| 132 | 14 | PID | 132 | 1213 | Intake Air Throttle Valve Closure Detection -Braking Condition  |
| 132 | 1  | PID | 132 | 1213 | Air Mass Flow Too Low   |
| 158 | 2  | PID | 43  | 1214 | Ignition Switch Not Plausible                                   |
| 164 | 4  | PID | 164 | 1215 | Rail Pressure Governor Sensor Circuit Failed Low                |
| 164 | 3  | PID | 164 | 1215 | Rail Pressure Governor Sensor Circuit Failed High               |
| 164 | 3  | PID | 164 | 1215 | Rail Pressure Governor (High Side) Error                        |
| 164 | 4  | PID | 164 | 1215 | Rail Pressure Governor (Low Side) Error                         |
| 168 | 1  | PID | 168 | 1221 | Battery Voltage Low   |
| 168 | 0  | PID | 168 | 1221 | Battery Voltage High  |
| 171 | 4  | PID | 171 | 1222 | Ambient Temperature Circuit Failed Low                          |
| 171 | 3  | PID | 171 | 1222 | Ambient Temperature Circuit Failed High                         |
| 174 | 4  | PID | 174 | 1223 | Fuel Temperature Circuit Failed Low                             |
| 174 | 3  | PID | 174 | 1223 | Fuel Temperature Circuit Failed High                            |
| 174 | 2  | PID | 174 | 1223 | Fuel Temperature Sensor; General Temp. Plausibility             |
| 174 | 0  | PID | 174 | 1223 | Fuel Temperature Too High                                       |
| 175 | 4  | PID | 175 | 1224 | Engine Oil Temperature Circuit Failed Low                       |
| 175 | 3  | PID | 175 | 1224 | Engine Oil Temperature Circuit Failed High                      |
| 175 | 14 | PID | 175 | 1224 | Engine Oil Temperature Sensor Plausibility Fault                |
| 175 | 2  | PID | 175 | 1224 | Engine Oil Temperature Sensor; General Temp. Plausibility       |
| 190 | 0  | PID | 190 | 1225 | Engine Speed High   |
| 354 | 4  | PID | 354 | 1231 | Relative Humidity Circuit Failed Low                            |
| 354 | 3  | PID | 354 | 1231 | Relative Humidity Circuit Failed High                           |
| 411 | 4  | PID | 411 | 1232 | EGR Delta Pressure Sensor Circuit Low                           |
| 411 | 3  | PID | 411 | 1232 | EGR Delta Pressure Sensor Circuit High                          |
| 411 | 0  | PID | 411 | 1232 | EGR Differential Pressure Failed (High Box)                     |
| 411 | 1  | PID | 411 | 1232 | EGR Differential Pressure Failed (Low Box)                      |
| 411 | 5  | PID | 411 | 1232 | EGR Sampling Range Failed                                       |
| 411 | 13 | PID | 411 | 1232 | EGR Delta Pressure Sensor Out Of Calibration 1                  |
| 411 | 13 | PID | 411 | 1232 | EGR Delta Pressure Sensor Out Of Calibration 2                  |
| 412 | 3  | PID | 412 | 1233 | EGR Temperature Sensor Circuit Failed High                      |
| 412 | 4  | PID | 412 | 1233 | EGR Temperature Sensor Circuit Failed Low                       |
| 412 | 20 | PID | 412 | 1233 | EGR Temperature Drift (High Box)                                |

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| 412 | 21 | PID | 412 | 1233 | EGR Temperature Drift (Low Box)  |
| 412 | 2  | PID | 412 | 1233 | EGR Temperature Sensor; General Temp. Plausibility Error                         |
| 412 | 16 | PID | 412 | 1233 | EGR Temperature Sensor / Temperature Too High                                    |
| 412 | 0  | PID | 412 | 1512 | EGR Temperature Very High  |
| 615 | 14 | SID | 155 | 1112 | Fuel Pressure Too High/Too Low   |
| 615 | 4  | SID | 51  | 1322 | Water Pump 1 Circuit Failed Low  |
| 615 | 3  | SID | 51  | 1322 | Water Pump 1 Circuit Failed High   |
| 615 | 5  | SID | 51  | 1322 | Water Pump 1 Circuit Failed Open   |
| 615 | 4  | SID | 55  | 1331 | Turbo Compound Valve Circuit Failed Low  |
| 615 | 3  | SID | 55  | 1331 | Turbo Compound Valve Circuit Failed High   |
| 615 | 5  | SID | 55  | 1331 | Turbo Compound Valve Circuit Failed Open   |
| 615 | 4  | SID | 259 | 1335 | Turbo Brake Sleeve Circuit Failed Low  |
| 615 | 3  | SID | 259 | 1335 | Turbo Brake Sleeve Circuit Failed High   |
| 615 | 5  | SID | 259 | 1335 | Turbo Brake Sleeve Circuit Failed Open   |
| 615 | 4  | SID | 261 | 1355 | Function 20 Circuit Failed Low   |
| 615 | 3  | SID | 261 | 1355 | Function 20 Circuit Failed High  |
| 615 | 5  | SID | 261 | 1355 | Function 20 Circuit Failed Open  |
| 615 | 3  | SID | 155 | 1451 | Service Push Button Circuit Failed High  |
| 615 | 14 | SID | 155 | 1453 | Smart Remote Actuator 2; No Failsafe Mode; Motor Off                             |
| 615 | 9  | SID | 155 | 1453 | Smart Remote Actuator 2; Failsafe Mode; Motor Off                                |
| 615 | 16 | SID | 155 | 1453 | Smart Remote Actuator 2; Temperature Fault                                       |
| 615 | 7  | SID | 155 | 1453 | Smart Remote Actuator 2; Failsafe Mode; Motor On                                 |
| 615 | 11 | SID | 155 | 1453 | Smart Remote Actuator 2; Restricted Operability                                  |
| 615 | 15 | SID | 155 | 1453 | Smart Remote Actuator 2; Temperature Warning                                     |
| 615 | 8  | SID | 155 | 1453 | Smart Remote Actuator 2; Internal Test Running                                   |
| 615 | 31 | SID | 155 | 1453 | Smart Remote Actuator 2; Unknown Error Code                                      |
| 615 | 13 | SID | 155 | 1454 | Turbocharger Compressor Outlet Differential Pressure Sensor Out Of Calibration 1 |
| 615 | 13 | SID | 155 | 1454 | Turbocharger Compressor Outlet Differential Pressure Sensor Out Of Calibration 2 |
| 615 | 14 | SID | 155 | 1615 | Rail Pressure Governor; Valve Stays Open   |
| 615 | 14 | SID | 155 | 1615 | Rail Pressure Governor; Leakage in High Pressure Too High                        |
| 615 | 14 | SID | 155 | 1615 | Rail Pressure Governor Sensor; Signal Drift                                      |
| 615 | 14 | SID | 155 | 1615 | Rail Pressure Governor Sensor; Sensor Supply Line Broken                         |
| 615 | 4  | SID | 155 | 1615 | Compressor Differential Pressure Outlet Failed Low                               |
| 615 | 3  | SID | 155 | 1615 | Compressor Differential Pressure Outlet Failed High                              |
| 615 | 14 | SID | 155 | 1615 | High Pressure Pump; Leakage or TDC Position Wrong                                |
| 615 | 4  | SID | 155 | 1615 | Flap In Front of EGR Cooler Circuit Failed Low                                   |
| 615 | 3  | SID | 155 | 1615 | Flap In Front of EGR Cooler Circuit Failed High                                  |

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|-----|----|-----|-----|------|---|
| 615 | 5  | SID | 155 | 1615 | Flap In Front of EGR Cooler Circuit Failed Open   |
| 615 | 4  | SID | 155 | 1615 | Water Pump 2 Circuit Failed Low                   |
| 615 | 3  | SID | 155 | 1615 | Water Pump 2 Circuit Failed High                  |
| 615 | 5  | SID | 156 | 1615 | Water Pump 2 Circuit Failed Open                  |
| 615 | 4  | SID | 157 | 1615 | RCP Test Function 1 Circuit Failed Low            |
| 615 | 3  | SID | 158 | 1615 | RCP Test Function 1 Circuit Failed High           |
| 615 | 5  | SID | 159 | 1615 | RCP Test Function 1 Circuit Failed Open           |
| 615 | 4  | SID | 160 | 1615 | RCP Test Function 2 Circuit Failed Low            |
| 615 | 3  | SID | 161 | 1615 | RCP Test Function 2 Circuit Failed High           |
| 615 | 5  | SID | 162 | 1615 | RCP Test Function 2 Circuit Failed Open           |
| 615 | 4  | SID | 163 | 1615 | Volute Control Valve; Shorted to Ground           |
| 615 | 3  | SID | 164 | 1615 | Volute Control Valve; Shorted to Battery          |
| 615 | 5  | SID | 165 | 1615 | Volute Control Valve; Open Load                   |
| 615 | 4  | SID | 166 | 1615 | Volute Shut Off Valve; Shorted to Ground          |
| 615 | 3  | SID | 167 | 1615 | Volute Shut Off Valve; Shorted to Battery         |
| 615 | 5  | SID | 168 | 1615 | Volute Shut Off Valve; Open Load                  |
| 615 | 4  | SID | 169 | 1615 | Function 30 Circuit Failed Low                    |
| 615 | 3  | SID | 170 | 1615 | Function 30 Circuit Failed High                   |
| 615 | 5  | SID | 171 | 1615 | Function 30 Circuit Failed Open                   |
| 615 | 4  | SID | 172 | 1615 | Function 31 Circuit Failed Low                    |
| 615 | 3  | SID | 173 | 1615 | Function 31 Circuit Failed High                   |
| 615 | 5  | SID | 174 | 1615 | Function 31 Circuit Failed Open                   |
| 625 | 2  | SID | 248 | 1234 | Invalid Data on Engine CAN Link                   |
| 625 | 9  | SID | 248 | 1234 | No Data Received from Engine CAN Link             |
| 625 | 9  | SID | 248 | 1234 | Engine CAN Low Wire Defect - (wire 1)             |
| 625 | 9  | SID | 248 | 1234 | Engine CAN High Wire Defect - (wire 2)            |
| 630 | 12 | SID | 253 | 1452 | EEPROM Read / Write Operation Failed              |
| 630 | 13 | SID | 253 | 1455 | Calibration Data Not Plausible                    |
| 630 | 13 | SID | 253 | 1455 | Calibration Data Not Plausible (CPLD)             |
| 634 | 4  | SID | 40  | 1321 | Constant Throttle Valve Circuit Failed Low        |
| 634 | 3  | SID | 40  | 1321 | Constant Throttle Valve Circuit Failed High       |
| 634 | 5  | SID | 40  | 1321 | Constant Throttle Valve Circuit Failed Open       |
| 636 | 1  | SID | 21  | 1235 | Crankshaft Position Sensor Signal Voltage Too Low |
| 636 | 3  | SID | 21  | 1235 | Crankshaft Position Sensor Open Circuit           |
| 636 | 4  | SID | 21  | 1235 | Crankshaft Position Sensor Short to Ground        |
| 636 | 8  | SID | 21  | 1235 | Crankshaft Position Sensor Time Out               |
| 636 | 14 | SID | 21  | 1235 | Crankshaft Position Sensor Pins Swapped           |

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|-----|----|-----|-----|------|--|
| 636 | 2  | SID | 21  | 1235 | No Match of Camshaft and Crankshaft Signals  |
| 641 | 14 | SID | 147 | 1241 | Turbo Actuator; No Failsafe Mode; Motor Off  |
| 641 | 9  | SID | 147 | 1241 | Turbo Actuator; Failsafe Mode; Motor Off   |
| 641 | 7  | SID | 147 | 1241 | Turbo Actuator; Failsafe Mode; Motor On  |
| 641 | 11 | SID | 147 | 1241 | Turbo Actuator; Restricted Operability   |
| 641 | 8  | SID | 147 | 1241 | Turbo Actuator; Internal Test Running  |
| 641 | 31 | SID | 147 | 1241 | Turbo Actuator; Unknown Error Code   |
| 641 | 4  | SID | 27  | 1542 | Turbo Control Circuit Failed Low   |
| 641 | 3  | SID | 27  | 1542 | Turbo Control Circuit Failed High  |
| 641 | 5  | SID | 27  | 1542 | Turbo Control Circuit Open   |
| 647 | 4  | SID | 33  | 1334 | Fan Stage 1 Circuit Failed Low   |
| 647 | 3  | SID | 33  | 1334 | Fan Stage 1 Circuit Failed High  |
| 647 | 5  | SID | 33  | 1334 | Fan Stage 1 Circuit Failed Open  |
| 651 | 14 | SID | 1   | 1242 | Injector Cylinder #1 Needle Control Valve Abnormal Operation                             |
| 651 | 10 | SID | 1   | 1242 | Injector Cylinder #1 Needle Control Valve Abnormal Rate of Change                        |
| 651 | 5  | SID | 1   | 1242 | Injector Cylinder 1; Nozzle Control Valve or Spill Control Valve; Jammed Closed          |
| 651 | 7  | SID | 1   | 1242 | Injector Cylinder 1; Nozzle Control Valve or Spill Control Valve; Jammed Open or Leakage |
| 651 | 6  | SID | 1   | 1242 | Injector Cylinder #1 Needle Control Valve; Valve Shorted Circuit                         |
| 651 | 31 | SID | 1   | 1242 | Engine Smoothness Control / Cylinder #1 Value Out of Range                               |
| 652 | 14 | SID | 2   | 1243 | Injector Cylinder #2 Needle Control Valve Abnormal Operation                             |
| 652 | 10 | SID | 2   | 1243 | Injector Cylinder #2 Needle Control Valve Abnormal Rate of Change                        |
| 652 | 5  | SID | 2   | 1243 | Injector Cylinder 2; Nozzle Control Valve or Spill Control Valve; Jammed Closed          |
| 652 | 7  | SID | 2   | 1243 | Injector Cylinder 2; Nozzle Control Valve or Spill Control Valve; Jammed Open or Leakage |
| 652 | 6  | SID | 2   | 1243 | Injector Cylinder #2 Needle Control Valve; Valve Shorted Circuit                         |
| 652 | 31 | SID | 2   | 1243 | Engine Smoothness Control / Cylinder #2 Value Out of Range                               |
| 653 | 14 | SID | 3   | 1244 | Injector Cylinder #3 Needle Control Valve Abnormal Operation                             |
| 653 | 10 | SID | 3   | 1244 | Injector Cylinder #3 Needle Control Valve Abnormal Rate of Change                        |
| 653 | 5  | SID | 3   | 1244 | Injector Cylinder 3; Nozzle Control Valve or Spill Control Valve; Jammed Closed          |
| 653 | 7  | SID | 3   | 1244 | Injector Cylinder 3; Nozzle Control Valve or Spill Control Valve; Jammed Open or Leakage |
| 653 | 6  | SID | 3   | 1244 | Injector Cylinder #3 Needle Control Valve; Valve Shorted Circuit                         |
| 653 | 31 | SID | 3   | 1244 | Engine Smoothness Control / Cylinder #3 Value Out of Range                               |
| 654 | 14 | SID | 4   | 1245 | Injector Cylinder #4 Needle Control Valve Abnormal Operation                             |
| 654 | 10 | SID | 4   | 1245 | Injector Cylinder #4 Needle Control Valve Abnormal Rate of Change                        |
| 654 | 5  | SID | 4   | 1245 | Injector Cylinder 4; Nozzle Control Valve or Spill Control Valve; Jammed Closed          |
| 654 | 7  | SID | 4   | 1245 | Injector Cylinder 4; Nozzle Control Valve or Spill Control Valve; Jammed Open or Leakage |
| 654 | 6  | SID | 4   | 1245 | Injector Cylinder #4 Needle Control Valve; Valve Shorted Circuit                         |
| 654 | 31 | SID | 4   | 1245 | Engine Smoothness Control / Cylinder #4 Value Out of Range                               |

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| 655 | 14 | SID | 5   | 1251 | Injector Cylinder #5 Needle Control Valve Abnormal Operation                             |
| 655 | 10 | SID | 5   | 1251 | Injector Cylinder #5 Needle Control Valve Abnormal Rate of Change                        |
| 655 | 5  | SID | 5   | 1251 | Injector Cylinder 5; Nozzle Control Valve or Spill Control Valve; Jammed Closed          |
| 655 | 7  | SID | 5   | 1251 | Injector Cylinder 5; Nozzle Control Valve or Spill Control Valve; Jammed Open or Leakage |
| 655 | 6  | SID | 5   | 1251 | Injector Cylinder #5 Needle Control Valve; Valve Shorted Circuit                         |
| 655 | 31 | SID | 5   | 1251 | Engine Smoothness Control / Cylinder #5 Value Out of Range                               |
| 656 | 14 | SID | 6   | 1252 | Injector Cylinder #6 Needle Control Valve Abnormal Operation                             |
| 656 | 10 | SID | 6   | 1252 | Injector Cylinder #6 Needle Control Valve Abnormal Rate of Change                        |
| 656 | 5  | SID | 6   | 1252 | Injector Cylinder 6; Nozzle Control Valve or Spill Control Valve; Jammed Closed          |
| 656 | 7  | SID | 6   | 1252 | Injector Cylinder 6; Nozzle Control Valve or Spill Control Valve; Jammed Open or Leakage |
| 656 | 6  | SID | 6   | 1252 | Injector Cylinder #6 Needle Control Valve; Valve Shorted Circuit                         |
| 656 | 31 | SID | 6   | 1252 | Engine Smoothness Control / Cylinder #6 Value Out of Range                               |
| 657 | 14 | SID | 7   | 1253 | Injector Cylinder #7 Needle Control Valve Abnormal Operation                             |
| 657 | 10 | SID | 7   | 1253 | Injector Cylinder #7 Needle Control Valve Abnormal Rate of Change                        |
| 657 | 6  | SID | 7   | 1253 | Injector Cylinder #7 Needle Control Valve; Valve Shorted Circuit                         |
| 657 | 31 | SID | 7   | 1253 | Engine Smoothness Control / Cylinder #7 Value Out of Range                               |
| 658 | 14 | SID | 8   | 1254 | Injector Cylinder #8 Needle Control Valve Abnormal Operation                             |
| 658 | 10 | SID | 8   | 1254 | Injector Cylinder #8 Needle Control Valve Abnormal Rate of Change                        |
| 658 | 6  | SID | 8   | 1254 | Injector Cylinder #8 Needle Control Valve; Valve Shorted Circuit                         |
| 658 | 31 | SID | 8   | 1254 | Engine Smoothness Control / Cylinder #8 Value Out of Range                               |
| 677 | 2  | SID | 39  | 1255 | Starter Switch Inconsistent  |
| 677 | 5  | SID | 39  | 1255 | Engine Starter Relay Open Circuit  |
| 677 | 4  | SID | 39  | 1255 | Engine Starter Relay Open Load Failure   |
| 677 | 14 | SID | 39  | 1255 | Starter Electronic Fault / ECU internal (Main)   |
| 677 | 7  | SID | 39  | 1255 | Engine Starter Relay - Starter Does Not Engage   |
| 677 | 3  | SID | 39  | 1255 | Engine Starter Relay Shorted to High Source  |
| 677 | 7  | SID | 39  | 1255 | Engine Starter Relay Jammed  |
| 677 | 31 | SID | 39  | 1255 | Starter Electronic Fault / ECU internal (Res)  |
| 677 | 14 | SID | 39  | 1255 | Starter Jammed (Tooth to Tooth Jam)  |
| 715 | 4  | SID | 263 | 1412 | High Side Digital Output # 1 Circuit Failed Low  |
| 715 | 3  | SID | 263 | 1412 | High Side Digital Output # 1 Circuit Failed High   |
| 716 | 3  | SID | 263 | 1412 | High Side Digital Output # 2 Circuit Failed Open   |
| 716 | 4  | SID | 264 | 1413 | High Side Digital Output # 2 Circuit Failed Low  |
| 723 | 1  | SID | 64  | 1415 | Camshaft Position Sensor Signal Voltage Too Low  |
| 723 | 3  | SID | 64  | 1415 | Camshaft Position Sensor Open Circuit  |
| 723 | 4  | SID | 64  | 1415 | Camshaft Position Sensor Short to Ground   |
| 723 | 8  | SID | 64  | 1415 | Camshaft Position Sensor Time Out  |

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| 723  | 14 | SID | 64  | 1415 | Camshaft Position Sensor Pins Swapped  |
| 729  | 4  | SID | 70  | 1312 | Gridheater Circuit Failed Low  |
| 729  | 3  | SID | 70  | 1312 | Gridheater Circuit Failed High   |
| 729  | 5  | SID | 70  | 1312 | Gridheater Circuit Failed Open   |
| 729  | 4  | PID | 45  | 1421 | Grid Heater Circuit Failed Low   |
| 729  | 14 | PID | 45  | 1421 | Grid Heater Special Instructions   |
| 729  | 3  | PID | 45  | 1421 | Grid Heater Circuit Failed High  |
| 729  | 7  | PID | 45  | 1421 | Grid Heater Defect   |
| 729  | 0  | PID | 45  | 1421 | Grid Heater Permanently On   |
| 1071 | 4  | SID | 60  | 1314 | Fan Stage 2 Circuit Failed Low   |
| 1071 | 3  | SID | 60  | 1314 | Fan Stage 2 Circuit Failed High  |
| 1071 | 5  | SID | 60  | 1314 | Fan Stage 2 Circuit Failed Open  |
| 1072 | 4  | SID | 79  | 1422 | Jake Brake Stage 1 Circuit Failed Low  |
| 1072 | 3  | SID | 79  | 1422 | Jake Brake Stage 1 Circuit Failed High                                       |
| 1072 | 5  | SID | 79  | 1422 | Jake Brake Stage 1 Circuit Failed Open                                       |
| 1073 | 4  | SID | 80  | 1315 | Jake Brake Stage 2 Circuit Failed Low  |
| 1073 | 3  | SID | 80  | 1315 | Jake Brake Stage 2 Circuit Failed High                                       |
| 1073 | 5  | SID | 80  | 1315 | Jake Brake Stage 2 Circuit Failed Open                                       |
| 1074 | 4  | SID | 81  | 1345 | Exhaust Brake Circuit Failed Low   |
| 1074 | 3  | SID | 81  | 1345 | Exhaust Brake Circuit Failed High  |
| 1074 | 5  | SID | 81  | 1345 | Exhaust Brake Circuit Failed Open  |
| 1077 | 14 | PID | 164 | 1241 | Rail Pressure Governor Error; Open Loop Error                                |
| 1077 | 5  | PID | 164 | 1423 | Rail Pressure Governor Error; Current Governor; Current Too Low              |
| 1077 | 7  | PID | 164 | 1423 | Rail Pressure Governor Error; Pressure Governor; Pressure Not Plausible      |
| 1077 | 6  | SID | 155 | 1423 | Rail Pressure Governor Error; Current Too High                               |
| 1127 | 4  | SID | 273 | 1424 | Turbocharger Compressor Outlet Pressure Circuit Failed Low                   |
| 1127 | 3  | SID | 273 | 1424 | Turbocharger Compressor Outlet Pressure Circuit Failed High                  |
| 1172 | 4  | PID | 351 | 1425 | Turbocharger Compressor Inlet Temperature Circuit Failed Low                 |
| 1172 | 3  | PID | 351 | 1425 | Turbocharger Compressor Inlet Temperature Circuit Failed High                |
| 1172 | 2  | PID | 351 | 1425 | Coolant Temp/Compressor Inlet Temp Plausibility Error                        |
| 1172 | 2  | PID | 351 | 1425 | Turbocharger Compressor Inlet Temp. Sensor; General Temp. Plausibility Error |
| 1176 | 4  | SID | 314 | 1431 | Turbocharger Compressor Inlet Pressure Circuit Failed Low                    |
| 1176 | 3  | SID | 314 | 1431 | Turbocharger Compressor Inlet Pressure Circuit Failed High                   |
| 1176 | 2  | PID | 314 | 1431 | Compressor Pressure Plausibility Fault (High Box)                            |
| 1176 | 5  | PID | 314 | 1431 | Compressor Inlet Pressure Plausibility Fault (Delta)                         |
| 1176 | 20 | SID | 314 | 1431 | Compressor Inlet Pressure Plausibility Error; Pressure Too High (High Box)   |
| 1188 | 4  | SID | 32  | 1325 | Waste Gate Circuit Failed Low  |

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| 1188 | 3  | SID | 32  | 1325 | Waste Gate Circuit Failed High  |
| 1188 | 5  | SID | 32  | 1325 | Waste Gate Circuit Failed Open  |
| 1188 | 14 | SID | 32  | 1432 | Smart Remote Actuator 1 (Wastegate); No Failsafe Mode; Motor Off                      |
| 1188 | 9  | SID | 32  | 1432 | Smart Remote Actuator 1 (Wastegate); Failsafe Mode; Motor Off                         |
| 1188 | 16 | SID | 32  | 1432 | Smart Remote Actuator 1 (Wastegate); Temperature Fault                                |
| 1188 | 7  | SID | 32  | 1432 | Smart Remote Actuator 1 (Wastegate); Failsafe Mode; Motor On                          |
| 1188 | 11 | SID | 32  | 1432 | Smart Remote Actuator 1 (Wastegate); Restricted Operability                           |
| 1188 | 15 | SID | 32  | 1432 | Smart Remote Actuator 1 (Wastegate); Temperature Warning                              |
| 1188 | 8  | SID | 32  | 1432 | Smart Remote Actuator 1 (Wastegate); Internal Test Running                            |
| 1188 | 31 | SID | 32  | 1432 | Smart Remote Actuator 1 (Wastegate); Unknown Error Code                               |
| 1213 | 4  | SID | 257 | 1333 | MIL Lamp Circuit Failed Low   |
| 1213 | 3  | SID | 257 | 1333 | MIL Lamp Circuit Failed High  |
| 1213 | 5  | SID | 257 | 1333 | MIL Lamp Circuit Failed Open  |
| 1323 | 31 | SID | 1   | 1433 | Cylinder 1 Misfire detected   |
| 1323 | 14 | SID | 156 | 1434 | Misfire Detected  |
| 1324 | 31 | SID | 2   | 1435 | Cylinder 2 Misfire detected   |
| 1325 | 31 | SID | 3   | 1441 | Cylinder 3 Misfire detected   |
| 1326 | 31 | SID | 4   | 1442 | Cylinder 4 Misfire detected   |
| 1327 | 31 | SID | 5   | 1443 | Cylinder 5 Misfire detected   |
| 1328 | 31 | SID | 155 | 1444 | Cylinder 6 Misfire Detected   |
| 1329 | 31 | SID | 155 | 1445 | Cylinder 7 Misfire Detected   |
| 1330 | 31 | SID | 155 | 1446 | Cylinder 8 Misfire Detected   |
| 1351 | 4  | SID | 155 | 1663 | Switchable Air Compressor Circuit Failed Low  |
| 1351 | 3  | SID | 155 | 1663 | Switchable Air Compressor Circuit Failed High   |
| 1351 | 5  | SID | 155 | 1663 | Switchable Air Compressor Circuit Failed Open   |
| 1636 | 4  | PID | 105 | 1511 | Intake Manifold Temperature Circuit Failed Low  |
| 1636 | 3  | PID | 105 | 1511 | Intake Manifold Temperature Circuit Failed High                                       |
| 1636 | 2  | PID | 105 | 1511 | Intake Manifold Temperature Plausibility Error  |
| 1636 | 14 | PID | 105 | 1511 | Difference Intake Manifold Temperature and EGR Temp. Less Than Threshold (Low Box)    |
| 1636 | 20 | PID | 105 | 1511 | Intake Manifold Temperature Drift (Low Box)   |
| 1636 | 21 | PID | 105 | 1511 | Intake Manifold Temperature Drift (High Box)  |
| 2629 | 4  | PID | 404 | 1513 | Turbocharger Compressor Outlet Temperature Circuit Failed Low                         |
| 2629 | 3  | PID | 404 | 1513 | Turbocharger Compressor Outlet Temperature Circuit Failed High                        |
| 2629 | 20 | PID | 404 | 1513 | Turbocharger Out Temperature; Temperature Too High (Low Box)                          |
| 2629 | 21 | PID | 404 | 1513 | Turbocharger Out Temperature; Temperature Too Low (High Box)                          |
| 2629 | 2  | PID | 404 | 1513 | Turbocharger Compressor Outlet Temp. Sensor; General Temp. Plausibility Error         |
| 2630 | 14 | PID | 105 | 1511 | Difference Intake Manifold and I Cooler Temperature Out Less Than Threshold (Low Box) |

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| 2630 | 31 | PID | 105 | 1511 | Difference Intake Manifold and I Cooler Temperature Out Less Than Threshold (High Box) |
| 2630 | 4  | SID | 272 | 1514 | Charge Air Cooler Outlet Temperature Circuit Failed Low                                |
| 2630 | 3  | SID | 272 | 1514 | Charge Air Cooler Outlet Temperature Circuit Failed High                               |
| 2630 | 2  | SID | 272 | 1514 | Charge Air Cooler Outlet Temperature Sensor Plausibility Error                         |
| 2630 | 20 | SID | 272 | 1514 | Charge Air Outlet Temperature Drift (Low box)  |
| 2630 | 21 | SID | 272 | 1514 | Charge Air Outlet Temperature Drift (High box)   |
| 2631 | 4  | SID | 273 | 1515 | Charge Air Cooler Outlet Pressure Circuit Failed Low                                   |
| 2631 | 3  | SID | 273 | 1515 | Charge Air Cooler Outlet Pressure Circuit Failed High                                  |
| 2631 | 2  | SID | 273 | 1515 | Turbocharger/Supercharger Boost System Performance                                     |
| 2659 | 1  | SID | 277 | 1515 | EGR Flow Target Error Diagnostic - Low Flow  |
| 2659 | 0  | SID | 277 | 1515 | EGR Flow Target Error Diagnostic - High Flow   |
| 2791 | 4  | PID | 146 | 1521 | EGR Valve Circuit Failed Low   |
| 2791 | 3  | PID | 146 | 1521 | EGR Valve Circuit Failed High  |
| 2791 | 5  | PID | 146 | 1521 | EGR Valve Circuit Failed Open  |
| 2791 | 7  | SID | 146 | 1521 | EGR Valve Position Incorrect   |
| 2791 | 14 | SID | 146 | 1521 | Smart Remote Actuator 3 (EGR); No Failsafe Mode; Motor Off                             |
| 2791 | 9  | SID | 146 | 1521 | Smart Remote Actuator 3 (EGR); Failsafe Mode; Motor Off                                |
| 2791 | 16 | SID | 146 | 1521 | Smart Remote Actuator 3 (EGR); Temperature Fault                                       |
| 2791 | 7  | SID | 146 | 1521 | Smart Remote Actuator 3 (EGR); Failsafe Mode; Motor On                                 |
| 2791 | 11 | SID | 146 | 1521 | Smart Remote Actuator 3 (EGR); Restricted Operability                                  |
| 2791 | 15 | SID | 146 | 1521 | Smart Remote Actuator 3 (EGR); Temperature Warning                                     |
| 2791 | 8  | SID | 146 | 1521 | Smart Remote Actuator 3 (EGR); Internal Test Running                                   |
| 2791 | 31 | SID | 146 | 1521 | Smart Remote Actuator 3 (EGR); Unknown Error Code                                      |
| 2795 | 9  | SID | 269 | 1241 | Turbo Actuator (CAN3) Communication Error  |
| 2795 | 4  | SID | 269 | 1522 | Position Waste Gate (VNT) Failed Low   |
| 2795 | 3  | SID | 269 | 1522 | Position Waste Gate (VNT) Failed High  |
| 2795 | 2  | SID | 269 | 1522 | VNT Valve Position Feedback Failed   |
| 2795 | 0  | SID | 269 | 1522 | VNT Valve Position Feedback; Position Too Low (High Box)                               |
| 2795 | 1  | SID | 269 | 1522 | VNT Valve Position Feedback; Position Too High (Low Box)                               |
| 2797 | 4  | SID | 317 | 1523 | Injector Needle Control Valve Cylinder 1; 2; 3 Shorted to Ground                       |
| 2797 | 3  | SID | 317 | 1523 | Injector Needle Control Valve Cylinder 1;2;3 Shorted to Battery                        |
| 2798 | 4  | SID | 317 | 1524 | Injector Needle Control Valve Cylinder 4; 5; 6 Shorted to Ground                       |
| 2798 | 3  | SID | 317 | 1524 | Injector Needle Control Valve Cylinder 4;5;6 Shorted to Battery                        |
| 2988 | 4  | SID | 262 | 1411 | EGR Water Cooling Regulator Circuit Failed Low   |
| 2988 | 3  | SID | 262 | 1411 | EGR Water Cooling Regulator Circuit Failed High  |
| 2988 | 5  | SID | 262 | 1411 | EGR Water Cooling Regulator Circuit Failed Open  |
| 3050 | 0  | SID | 155 | 1525 | Engine Air Flow Out of Range Low   |

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| 3050 | 1  | SID | 324 | 1525 | Active Regen Temp Out of Range Low                            |
| 3242 | 4  | PID | 318 | 1531 | DOC Inlet Temperature Circuit Failed Low                      |
| 3242 | 3  | PID | 318 | 1531 | DOC Inlet Temperature Circuit Failed High                     |
| 3242 | 10 | SID | 318 | 1531 | DOC Inlet Temperature Sensor Stuck                            |
| 3242 | 2  | SID | 318 | 1531 | DOC Inlet Temperature Sensor - Plausibility Error             |
| 3246 | 4  | SID | 320 | 1532 | DPF Outlet Temperature Circuit Failed Low                     |
| 3246 | 3  | SID | 320 | 1532 | DPF Outlet Temperature Circuit Failed High                    |
| 3246 | 14 | SID | 320 | 1532 | Abnormal DPF Temperature Rise 2                               |
| 3246 | 0  | SID | 320 | 1532 | DPF Outlet Temperature High                                   |
| 3246 | 10 | SID | 320 | 1532 | DPF Outlet Temperature Sensor Stuck                           |
| 3246 | 2  | SID | 320 | 1532 | DPF Outlet Temperature Sensor - Plausibility Error            |
| 3246 | 31 | SID | 323 | 1532 | Abnormal DPF Temperature Rise 1                               |
| 3250 | 4  | PID | 322 | 1533 | DOC Outlet Temperature Circuit Failed Low                     |
| 3250 | 3  | PID | 322 | 1533 | DOC Outlet Temperature Circuit Failed High                    |
| 3250 | 14 | PID | 322 | 1533 | Abnormal DOC Temperature Rise 2                               |
| 3250 | 10 | SID | 322 | 1533 | DOC Outlet Temperature Sensor Stuck                           |
| 3250 | 2  | SID | 322 | 1533 | DOC Outlet Temperature Sensor - Plausibility Error            |
| 3250 | 31 | SID | 322 | 1533 | Abnormal DOC Temperature Rise 1                               |
| 3250 | 0  | SID | 322 | 1533 | DOC Outlet Temperature Too High                               |
| 3251 | 0  | SID | 324 | 1534 | DPF Pressure Out of Range High                                |
| 3251 | 1  | SID | 324 | 1534 | DPF Pressure Out of Range Low                                 |
| 3251 | 9  | SID | 324 | 1534 | Abnormal Soot Rate  |
| 3251 | 16 | SID | 324 | 1534 | DPF Pressure - Out of Range High                              |
| 3358 | 4  | SID | 155 | 1535 | EGR Pressure Failed Low                                       |
| 3358 | 3  | SID | 155 | 1535 | EGR Pressure Failed High                                      |
| 3464 | 4  | SID | 59  | 1313 | Intake Throttle Valve Circuit Failed Low                      |
| 3464 | 3  | SID | 59  | 1313 | Intake Throttle Valve Circuit Failed High                     |
| 3464 | 5  | SID | 59  | 1313 | Intake Throttle Valve Circuit Failed Open                     |
| 3464 | 2  | PID | 51  | 1541 | Intake Throttle Valve; Spring Response Time Not Plausible     |
| 3464 | 7  | PID | 51  | 1541 | Intake Throttle Valve; Stuck                                  |
| 3464 | 14 | PID | 51  | 1541 | Intake Throttle Valve; Integrated Absolute Error Plausibility |
| 3464 | 8  | PID | 51  | 1541 | Intake Throttle Valve; Current Deviation Too High             |
| 3464 | 14 | SID | 59  | 1541 | Intake Air Throttle Control Electrical Fault                  |
| 3470 | 4  | SID | 57  | 1311 | Actuator Turbo Compound Bypass Circuit Failed Low             |
| 3470 | 3  | SID | 57  | 1311 | Actuator Turbo Compound Bypass Circuit Failed High            |
| 3470 | 5  | SID | 57  | 1311 | Actuator Turbo Compound Bypass Circuit Failed Open            |
| 3471 | 4  | SID | 333 | 1323 | HC Doser Circuit Failed Low                                   |

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| 3471 | 3  | SID | 333 | 1323 | HC Doser Circuit Failed High   |
| 3471 | 5  | SID | 333 | 1323 | HC Doser Circuit Failed Open   |
| 3471 | 1  | SID | 155 | 1542 | EDV Failed Self Test   |
| 3471 | 14 | SID | 333 | 1542 | Doser Metering and Safety Unit Valve Seals Check                         |
| 3480 | 2  | SID | 332 | 1543 | Doser Fuel Line Pressure Abnormal  |
| 3480 | 1  | SID | 332 | 1543 | Doser Fuel Supply Pressure Abnormal                                      |
| 3480 | 14 | SID | 332 | 1543 | Doser FLP Sensors Failed Self Test                                       |
| 3480 | 31 | PID | 94  | 1901 | Fuel Cut Off Valve Pressure Not Plausible                                |
| 3482 | 4  | SID | 334 | 1332 | Fuel Cut Off Valve Circuit Failed Low                                    |
| 3482 | 3  | SID | 334 | 1332 | Fuel Cut Off Valve Circuit Failed High                                   |
| 3482 | 5  | SID | 334 | 1332 | Fuel Cut Off Valve Circuit Failed Open                                   |
| 3482 | 7  | SID | 155 | 1544 | FCV Failed Self Test   |
| 3509 | 4  | SID | 212 | 1653 | 5V Sensor Supply Bank 1 Circuit Failed Low                               |
| 3509 | 3  | SID | 212 | 1653 | 5V Sensor Supply Bank 1 Circuit Failed High                              |
| 3509 | 3  | SID | 212 | 1631 | Multiplexer 1 Channel 1; Shorted High                                    |
| 3509 | 3  | SID | 212 | 1631 | Multiplexer 1 Channel 2; Shorted High                                    |
| 3510 | 4  | SID | 212 | 1654 | 5V Sensor Supply Bank 2 Circuit Failed Low                               |
| 3510 | 3  | SID | 212 | 1654 | 5V Sensor Supply Bank 2 Circuit Failed High                              |
| 3510 | 3  | SID | 211 | 1632 | Multiplexer 2 Channel 1; Shorted High                                    |
| 3510 | 3  | SID | 211 | 1632 | Multiplexer 2 Channel 2; Shorted High                                    |
| 3511 | 4  | SID | 211 | 1651 | 3V Sensor Supply Bank 1 Circuit Failed Low                               |
| 3511 | 3  | SID | 211 | 1651 | 3V Sensor Supply Bank 1 Circuit Failed High                              |
| 3511 | 3  | SID | 211 | 1633 | Multiplexer 3 Channel 1; Shorted High                                    |
| 3511 | 3  | SID | 211 | 1633 | Multiplexer 3 Channel 2; Shorted High                                    |
| 3512 | 4  | SID | 211 | 1652 | 3V Sensor Supply Bank 2 Circuit Failed Low                               |
| 3512 | 3  | SID | 211 | 1652 | 3V Sensor Supply Bank 2 Circuit Failed High                              |
| 3556 | 1  | SID | 382 | 1545 | Regen Temperature - Out of Range Low                                     |
| 3556 | 0  | SID | 382 | 1551 | Regen Temperature - Out of Range High                                    |
| 3563 | 4  | PID | 106 | 1551 | Intake Manifold Pressure Circuit Failed Low                              |
| 3563 | 3  | PID | 106 | 1551 | Intake Manifold Pressure Circuit Failed High                             |
| 3563 | 20 | PID | 106 | 1551 | Ambient and Inlet Manifold Pressure Difference (Low Box)                 |
| 3563 | 21 | PID | 106 | 1551 | Ambient and Inlet Manifold Pressure Difference (High Box)                |
| 3563 | 1  | PID | 106 | 1551 | Inlet Manifold Pressure Failed Low                                       |
| 3563 | 0  | PID | 106 | 1551 | Inlet Manifold Pressure Failed High                                      |
| 3563 | 3  | PID | 106 | 1551 | Inlet Manifold Pressure Sampling Range Failed                            |
| 3563 | 20 | PID | 106 | 1551 | Intake Manifold Pressure Plausibility (Low Box)                          |
| 3563 | 21 | PID | 106 | 1551 | Intake Manifold Pressure Plausibility Error; Pressure Too Low (High Box) |

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| 3588 | 4  | SID | 156 | 1552 | Ether Start; Shorted to Ground   |
| 3588 | 3  | SID | 157 | 1552 | Ether Start; Shorted to Battery  |
| 3588 | 5  | SID | 158 | 1552 | Ether Start; Open Load   |
| 3597 | 6  | SID | 155 | 1325 | Current Flow on HS1 IM1 Too High   |
| 3597 | 4  | SID | 251 | 1553 | Proportional Valve Bank 1 Circuit Failed Low                                   |
| 3597 | 3  | SID | 155 | 1644 | Proportional Valve Bank 1 Circuit Failed High                                  |
| 3598 | 4  | SID | 155 | 1645 | Proportional Valve Bank 2 Circuit Failed Low                                   |
| 3598 | 3  | SID | 155 | 1645 | Proportional Valve Bank 2 Circuit Failed High                                  |
| 3599 | 4  | SID | 317 | 1641 | Switching Power Supply Voltage Failed Low                                      |
| 3599 | 3  | SID | 317 | 1641 | Switching Power Supply Voltage Failed High                                     |
| 3609 | 4  | PID | 370 | 1554 | DPF Inlet Pressure Circuit Failed Low  |
| 3609 | 3  | PID | 370 | 1554 | DPF Inlet Pressure Circuit Failed High   |
| 3609 | 10 | SID | 370 | 1554 | DPF Inlet Pressure Sensor Stuck  |
| 3609 | 20 | SID | 370 | 1554 | DPF Inlet Pressure Sensor Drifted High In Range Fault (Low Box)                |
| 3609 | 2  | SID | 370 | 1554 | DPF Inlet Pressure Sensor Drifted High In Range Fault (High Box)               |
| 3609 | 21 | SID | 370 | 1554 | DPF Inlet Pressure Sensor Drifted Low In Range Fault (Low Box)                 |
| 3609 | 21 | SID | 370 | 1554 | DPF Inlet Pressure Sensor Drifted Low In Range Fault (High Box)                |
| 3610 | 0  | SID | 371 | 1334 | DPF System Back Pressure Too High  |
| 3610 | 3  | SID | 371 | 1555 | DPF Outlet Pressure Circuit Failed High  |
| 3610 | 4  | SID | 371 | 1555 | DPF Outlet Pressure Circuit Failed Low   |
| 3610 | 10 | SID | 371 | 1555 | DPF Outlet Pressure Sensor Stuck   |
| 3610 | 2  | SID | 371 | 1555 | DPF Outlet Pressure Sensor Plausibility Error                                  |
| 3610 | 20 | SID | 371 | 1555 | DPF Outlet Pressure Sensor Drifted High In Range Fault (Low Box)               |
| 3610 | 14 | SID | 371 | 1555 | DPF Outlet Pressure Sensor Drifted High In Range Fault (High Box)              |
| 3610 | 21 | SID | 371 | 1555 | DPF Outlet Pressure Sensor Drifted Low In Range Fault (Low Box)                |
| 3610 | 2  | SID | 371 | 1555 | DPF Outlet Pressure Sensor Drifted Low In Range Fault (High Box)               |
| 3659 | 14 | SID | 362 | 1611 | Injector Cylinder #1 Spill Control Valve Abnormal Operation                    |
| 3659 | 10 | SID | 362 | 1611 | Injector Cylinder #1 Spill Control Valve ("Amplifier") Abnormal Rate of Change |
| 3659 | 6  | SID | 362 | 1611 | Injector Cylinder #1 Spill Control Valve ("Amplifier"); Valve Shorted Circuit  |
| 3660 | 14 | SID | 363 | 1612 | Injector Cylinder #2 Spill Control Valve Abnormal Operation                    |
| 3660 | 10 | SID | 363 | 1612 | Injector Cylinder #2 Spill Control Valve ("Amplifier") Abnormal Rate of Change |
| 3660 | 6  | SID | 363 | 1612 | Injector Cylinder #2 Spill Control Valve ("Amplifier"); Valve Shorted Circuit  |
| 3661 | 14 | SID | 364 | 1613 | Injector Cylinder #3 Spill Control Valve Abnormal Operation                    |
| 3661 | 10 | SID | 364 | 1613 | Injector Cylinder #3 Spill Control Valve ("Amplifier") Abnormal Rate of Change |
| 3661 | 6  | SID | 364 | 1613 | Injector Cylinder #3 Spill Control Valve ("Amplifier"); Valve Shorted Circuit  |
| 3662 | 14 | SID | 365 | 1614 | Injector Cylinder #4 Spill Control Valve Abnormal Operation                    |
| 3662 | 10 | SID | 365 | 1614 | Injector Cylinder #4 Spill Control Valve ("Amplifier") Abnormal Rate of Change |

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| 3662 | 6  | SID | 365 | 1614 | Injector Cylinder #4 Spill Control Valve ("Amplifier"); Valve Shorted Circuit   |
| 3663 | 14 | SID | 366 | 1615 | Injector Cylinder #5 Spill Control Valve Abnormal Operation                     |
| 3663 | 10 | SID | 366 | 1615 | Injector Cylinder #5 Spill Control Valve ("Amplifier") Abnormal Rate of Change  |
| 3663 | 6  | SID | 366 | 1615 | Injector Cylinder #5 Spill Control Valve ("Amplifier"); Valve Shorted Circuit   |
| 3664 | 14 | SID | 367 | 1621 | Injector Cylinder #6 Spill Control Valve Abnormal Operation                     |
| 3664 | 10 | SID | 367 | 1621 | Injector Cylinder #6 Spill Control Valve ("Amplifier") Abnormal Rate of Change  |
| 3664 | 6  | SID | 367 | 1621 | Injector Cylinder #6 Spill Control Valve ("Amplifier"); Valve Shorted Circuit   |
| 3665 | 14 | SID | 368 | 1622 | Injector Cylinder #7 Spill Control Valve Abnormal Operation                     |
| 3665 | 10 | SID | 368 | 1622 | Injector Cylinder #7 Spill Control Valve ("Amplifier") Abnormal Rate of Change  |
| 3665 | 6  | SID | 368 | 1622 | Injector Cylinder #7 Spill Control Valve ("Amplifier"); Valve Shorted Circuit   |
| 3666 | 14 | SID | 369 | 1623 | Injector Cylinder #8 Spill Control Valve Abnormal Operation                     |
| 3666 | 10 | SID | 369 | 1623 | Injector Cylinder #8 Spill Control Valve ("Amplifier") Abnormal Rate of Change  |
| 3666 | 6  | SID | 369 | 1623 | Injector Cylinder #8 Spill Control Valve ("Amplifier"); Valve Shorted Circuit   |
| 3719 | 16 | SID | 155 | 1624 | Soot Level High   |
| 3719 | 0  | SID | 155 | 1624 | Soot Level Very High  |
| 3719 | 31 | SID | 155 | 1635 | DPF Zone 2 Condition  |
| 3719 | 15 | SID | 155 | 1636 | DPF Zone 3 Condition  |
| 3720 | 15 | SID | 155 | 1625 | DPF Ash Clean Request   |
| 3720 | 16 | SID | 155 | 1625 | DPF Ash Derate Request  |
| 4076 | 4  | PID | 110 | 1212 | Engine Coolant Inlet Temperature Circuit Failed Low                             |
| 4076 | 3  | PID | 110 | 1212 | Engine Coolant Inlet Temperature Circuit Failed High                            |
| 4076 | 2  | SID | 155 | 1615 | Engine Coolant Sensor (IN); General Temp. Plausibility Error                    |
| 4077 | 4  | SID | 332 | 1543 | Doser Fuel Line Pressure Sensor Circuit Failed Low                              |
| 4077 | 3  | SID | 332 | 1543 | Doser Fuel Line Pressure Sensor Circuit Failed High                             |
| 4077 | 14 | SID | 332 | 1543 | Doser Fuel Line Pressure Failed Self Test                                       |
| 4077 | 2  | SID | 332 | 1543 | HC-Doser Fuel Pressure Not Plausible  |
| 4192 | 4  | PID | 97  | 1642 | Water in Fuel Circuit Failed Low  |
| 4192 | 3  | PID | 97  | 1642 | Water in Fuel Circuit Failed High   |
| 4226 | 13 | SID | 155 | 1454 | Turbocharger Compressor Inlet Differential Pressure Sensor Out Of Calibration 1 |
| 4226 | 13 | SID | 155 | 1454 | Turbocharger Compressor Inlet Differential Pressure Sensor Out Of Calibration 2 |
| 4226 | 4  | SID | 155 | 1646 | Compressor Differential Pressure Inlet Failed Low                               |
| 4226 | 3  | SID | 155 | 1646 | Compressor Differential Pressure Inlet Failed High                              |
| 4226 | 0  | SID | 155 | 1646 | Turbocharger Compressor Inlet Differential Pressure Too High (Low Box)          |
| 4226 | 1  | SID | 155 | 1646 | Turbocharger Compressor Inlet Differential Pressure Too Low (High Box)          |
| 4226 | 5  | SID | 155 | 1646 | Turbocharger Compressor Inlet Differential Pressure Sampling Range Failure      |
| 4227 | 4  | SID | 53  | 1324 | Electrostatic Oil Separator Circuit Failed Low                                  |
| 4227 | 3  | SID | 53  | 1324 | Electrostatic Oil Separator Circuit Failed High                                 |

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| 4227 | 5  | SID | 53  | 1324 | Electrostatic Oil Separator Circuit Failed Open                       |
| 4227 | 4  | SID | 155 | 1643 | Oil Separator Circuit Failed Low                                      |
| 4227 | 3  | SID | 155 | 1643 | Oil Separator Circuit Failed High                                     |
| 4227 | 7  | SID | 155 | 1643 | Oil Separator; Max. Duration Time Reached                             |
| 4228 | 16 | SID | 147 | 1241 | Turbo Actuator; Temperature Fault                                     |
| 4228 | 15 | SID | 147 | 1241 | Turbo Actuator; Temperature Warning                                   |
| 4257 | 4  | SID | 317 | 1655 | Injector Needle Control Valve Bank 3; Shorted to Ground               |
| 4257 | 3  | SID | 317 | 1655 | Injector Needle Control Valve Bank 3; Shorted to Battery              |
| 4258 | 4  | SID | 317 | 1656 | Injector Spill Control Valve Cylinder 1; 2; 3 Shorted to Ground       |
| 4258 | 3  | SID | 317 | 1656 | Injector Spill Control Valve Cylinder 1;2;3 Shorted to Battery        |
| 4259 | 4  | SID | 317 | 1661 | Injector Spill Control Valve Cylinder 4; 5; 6 Shorted to Ground       |
| 4259 | 3  | SID | 317 | 1661 | Injector Spill Control Valve Cylinder 4;5;6 Shorted to Battery        |
| 4260 | 4  | SID | 317 | 1662 | Injector Spill Control Valve ("Amplifier") Bank 6; Shorted to Ground  |
| 4260 | 3  | SID | 317 | 1662 | Injector Spill Control Valve ("Amplifier") Bank 6; Shorted to Battery |