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GENERAL INFORMATION

DIAGNOSTIC TROUBLE CODE INDEX – TDV6 3.0L DIESEL , DTC: ENGINE CONTROL MODULE (ECM) (G1345102)

DESCRIPTION AND OPERATION

ENGINE CONTROL MODULE (ECM) - TDV6 3.0L DIESEL

CAUTION:

Diagnosis by substitution from a donor vehicle is **NOT** acceptable. Substitution of control modules does not guarantee confirmation of a fault and may also cause additional faults in the vehicle being tested and/or the donor vehicle.

NOTES:

- If the control module or a component is suspect and the vehicle remains under manufacturer warranty, refer to the Warranty Policy and Procedures manual (section B1.2), or determine if any prior approval programme is in operation, prior to the installation of a new module/component.
- Generic scan tools may not read the codes listed, or may read only 5-digit codes. Match the 5 digits from the scan tool to the first 5 digits of the 7-digit code listed to identify the fault (the last 2 digits give extra information read by the manufacturer-approved diagnostic system).
- When performing voltage or resistance tests, always use a digital multimeter accurate to three decimal places and with an up-to-date calibration certificate. When testing resistance always take the resistance of the digital multimeter leads into account.
- Check and rectify basic faults before beginning diagnostic routines involving pinpoint tests.
- Inspect connectors for signs of water ingress and pins for damage and/or corrosion
- If DTCs are recorded and, after performing the pinpoint tests, a fault is not present, an intermittent concern may be the cause. Always check for loose connections and corroded terminals.
- Check DDW for open campaigns. Refer to the corresponding bulletins and SSMs which may be valid for the specific customer complaint and carry out the recommendations as required.

The table below lists all Diagnostic Trouble Codes (DTCs) that could be logged in the Engine Control Module (ECM) - TDV6 3.0L Diesel. For additional diagnosis and testing information, refer to the relevant Diagnosis and Testing Section in the workshop manual. For additional information, refer to: Electronic Engine Controls (303-14B Electronic Engine Controls - TDV6 3.0L Diesel, Diagnosis and Testing).

The table below lists all Diagnostic Trouble Codes (DTCs) that could be logged in the Engine Control Module (ECM) - TDV6 3.0L Diesel. For additional Diesel Particulate Filter (DPF) diagnosis and testing information, refer to the relevant Diagnosis and Testing Section in the workshop manual. For additional information, refer to: Diesel Particulate Filter (309-00B Exhaust System - TDV6 3.0L Diesel, Diagnosis and Testing).

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
B1087-93	LIN Bus "A" - No operation	■ The engine control module has detected that the component is not operating ■ Generator LIN bus communication circuit failure	■ Refer to the electrical circuit diagrams and check the generator LIN bus circuit, for short circuit to power, short circuit to ground, open circuit. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest
B10A2-32	Crash Input - Signal low time < minimum	**NOTE:** Circuit reference - SRS_INPUT ■ Restraints control module fault ■ Auxiliary junction box fault ■ Harness fault	■ This DTC is set when the 'airbag deployed' signal supplied by the restraints control module is outside the specification expected by the engine control module ■ Check the restraints control module for DTCs and refer to the relevant DTC index ■ Check auxiliary junction box for DTCs and refer to the relevant DTC index ■ Refer to electrical circuit diagrams and check the supplementary restraints system input circuit for faults. This circuit is a single wire which connects the restraints control module to the auxiliary junction box and the engine control module. Check this circuit for short circuit to power or ground, open circuit including intermittent faults. Repair wiring as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest
B10A2-35	Crash Input - Signal high time > maximum	**NOTE:** Circuit reference - SRS_INPUT ■ Restraints control module fault ■ Auxiliary junction box fault ■ Harness fault	■ This DTC is set when the 'airbag deployed' signal supplied by the restraints control module is outside the specification expected by the engine control module ■ Check the restraints control module for DTCs and refer to the relevant DTC index ■ Check auxiliary junction box for DTCs and refer to the relevant DTC index ■ Refer to electrical circuit diagrams and check the supplementary restraints system input circuit for faults. This circuit is a single wire which connects the restraints control module to the auxiliary junction box and the engine control module. Check this circuit for short circuit to power or ground, open circuit including intermittent faults. Repair wiring as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
B10A2-36	Crash Input - Signal frequency too low	**NOTE:** Circuit reference - SRS_INPUT ■ The engine control module detected excessive duration for one cycle of the output across a specified sample size ■ Restraints control module fault ■ Auxiliary junction box fault ■ Harness fault	■ This DTC is set when the 'airbag deployed' signal supplied by the restraints control module is outside the specification expected by the engine control module ■ Check the restraints control module for DTCs and refer to the relevant DTC index ■ Check auxiliary junction box for DTCs and refer to the relevant DTC index ■ Refer to electrical circuit diagrams and check the supplementary restraints system input circuit for faults. This circuit is a single wire which connects the restraints control module to the auxiliary junction box and the engine control module. Check this circuit for short circuit to power or ground, open circuit including intermittent faults. Repair wiring as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the ‘Diagnosis Menu’ tab and retest
B10A2-37	Crash Input - Signal frequency too high	**NOTE:** Circuit reference - SRS_INPUT ■ The engine control module detected insufficient duration for one cycle of the output across a specified sample size ■ Restraints control module fault ■ Auxiliary junction box fault ■ Harness fault	■ This DTC is set when the 'airbag deployed' signal supplied by the restraints control module is outside the specification expected by the engine control module ■ Check the restraints control module for DTCs and refer to the relevant DTC index ■ Check auxiliary junction box for DTCs and refer to the relevant DTC index ■ Refer to electrical circuit diagrams and check the supplementary restraints system input circuit for faults. This circuit is a single wire which connects the restraints control module to the auxiliary junction box and the engine control module. Check this circuit for short circuit to power or ground, open circuit including intermittent faults. Repair wiring as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the ‘Diagnosis Menu’ tab and retest
B11D9-00	Vehicle Battery - No sub type information	■ Harness fault ■ Battery fault ■ Battery monitoring system module fault	■ This DTC is set when the battery monitoring system fails a diagnostic check ■ Refer to the battery care requirements, section 414-00 and verify that the vehicle battery is fully charged and serviceable before continuing with further diagnostic tests ■ Refer to the electrical circuit diagrams and check the connections between the battery and the battery monitoring module are clean and secure ■ Ensure that full battery voltage is present on the monitor line pin at the battery monitoring system module connector. Ensure the battery ground connection is clean and secure ■ Check the LIN bus connections to the battery monitoring system module. Check LIN bus circuit. If no fault found in wiring harness suspect battery monitoring system module failure

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
B11DB-87	Battery Monitoring Module - Missing message	■ Harness fault ■ Battery monitoring system module fault	■ This DTC is set when the engine control module has lost communication with the battery monitoring system module ■ Refer to the battery care requirements, section 414-00 and verify that the vehicle battery is fully charged and serviceable before continuing with further diagnostic tests ■ Refer to the electrical circuit diagrams and check the connections between the battery and the battery monitoring module are clean and secure ■ Ensure that full battery voltage is present on the monitor line pin at the battery monitoring system module connector. Ensure the battery ground connection is clean and secure ■ Check the LIN bus connections to the battery monitoring system module. Check LIN bus circuit. If no fault found in wiring harness suspect battery monitoring system module failure
B1206-68	Crash Occurred - Event information	■ The engine control module indicated the detection of a system event that was not caused by the engine control module itself but forced the engine control module to store the DTC e.g. missing functionality from another system or control module ■ Event information - the engine control module has received a crash signal from the restraints control module	■ This DTC is set if the restraints control module has deployed the restraints systems following activation of the crash sensors. Check the restraints control module for DTCs and refer to the relevant DTC index
P0030-11	HO2S Heater Control Circuit (Bank 1, Sensor 1) - Circuit short to ground	**NOTE:** Circuit reference - LPPH_A ■ The engine control module has detected a ground measurement for a period longer than expected or has detected a ground measurement when another value was expected ■ Harness fault - Pre-catalyst oxygen sensor heater control circuit short circuit to ground ■ Pre-catalyst oxygen sensor failure	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, Oxygen Sensor (O2S) Heater Duty Cycle Bank 1 Sensor 1 (0x03A1). Refer to the electrical circuit diagrams and check the pre-catalyst oxygen sensor heater control (heater ground) circuit for short circuit to ground. This circuit runs from the engine control module through the transmission harness to the exhaust system. Check for external harness damage due to chafing or heat. Repair harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the ‘Diagnosis Menu’ tab and retest ■ Suspect sensor failure if DTC resets. Heater circuit resistance measured at the component connector at approximately 20ºC ambient temperature should be 2.4 - 4.0 Ohms

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P0030-12	HO2S Heater Control Circuit (Bank 1, Sensor 1) - Circuit short to battery	**NOTE:** Circuit reference - LPPH_A ■ The engine control module has detected a vehicle power measurement for a period longer than expected or has detected a vehicle power measurement when another value was expected ■ Harness fault - Pre-catalyst oxygen sensor heater control circuit short circuit to power ■ Pre-catalyst oxygen sensor failure	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, Oxygen Sensor (O2S) Heater Duty Cycle Bank 1 Sensor 1 (0x03A1). Refer to the electrical circuit diagrams and check the pre-catalyst oxygen sensor heater control (heater ground) circuit for short circuit to power. This circuit runs from the engine control module through the transmission harness to the exhaust system. Check for external harness damage due to chafing or heat. Repair harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ Suspect sensor failure if DTC resets. Heater circuit resistance measured at the component connector at approximately 20ºC ambient temperature should be 2.4 - 4.0 Ohms
P0030-13	HO2S Heater Control Circuit (Bank 1, Sensor 1) - Circuit open	**NOTE:** Circuit reference - LPPH_A ■ The engine control module has determined an open circuit via lack of bias voltage, low current flow, no change in the state of an input in response to an output ■ Harness fault - Pre-catalyst oxygen sensor heater control circuit open circuit ■ Pre-catalyst oxygen sensor failure	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, Oxygen Sensor (O2S) Heater Duty Cycle Bank 1 Sensor 1 (0x03A1). Refer to the electrical circuit diagrams and check the pre-catalyst oxygen sensor heater control (heater ground) circuit for open circuit. This circuit runs from the engine control module through the transmission harness to the exhaust system. Check for external harness damage due to chafing or heat. Repair harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ Suspect sensor failure if DTC resets. Heater circuit resistance measured at the component connector at approximately 20ºC ambient temperature should be 2.4 - 4.0 Ohms
P0030-4B	HO2S Heater Control Circuit (Bank 1, Sensor 1) - Over temperature	■ Harness fault - Pre-catalyst oxygen sensor heater control circuit short circuit to power ■ Pre-catalyst oxygen sensor failure	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, Oxygen Sensor (O2S) Heater Duty Cycle Bank 1 Sensor 1 (0x03A1). Refer to the electrical circuit diagrams and check the pre-catalyst oxygen sensor heater control (heater ground) circuit for short circuit to power. This circuit runs from the engine control module through the transmission harness to the exhaust system. Check for external harness damage due to chafing or heat. Repair harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ Suspect sensor failure if DTC resets. Heater circuit resistance measured at the component connector at approximately 20ºC ambient temperature should be 2.4 - 4.0 Ohms

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P0033-00	Turbocharger /Supercharger Bypass Valve Control Circuit /Open - No sub type information	**NOTE:** Circuit reference - CRV ■ Harness fault - Boost air recirculation solenoid control circuit open circuit ■ Boost air recirculation solenoid failure	■ Refer to the electrical circuit diagrams and check the boost air recirculation solenoid control circuit between the engine control module and the control valve for open circuit. Check the power supply to the control valve. Repair any wiring faults found. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ If no fault found in wiring harness suspect boost air recirculation solenoid failure
P0034-00	Turbocharger /Supercharger Bypass Valve Control Circuit Low - No sub type information	**NOTE:** Circuit reference - CRV ■ Harness fault - Boost air recirculation solenoid circuit short circuit to ground ■ Boost air recirculation solenoid failure	■ Refer to the electrical circuit diagrams and check the boost air recirculation solenoid circuit between the engine control module and the control valve for a short circuit to ground. Check the power supply to the control valve. Repair any wiring faults found. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ If no fault found in wiring harness suspect boost air recirculation solenoid failure
P0035-00	Turbocharger /Supercharger Bypass Valve Control Circuit High - No sub type information	**NOTE:** Circuit reference - CRV ■ Harness fault - Boost air recirculation solenoid circuit short circuit to power ■ Boost air recirculation solenoid failure	■ Refer to the electrical circuit diagrams and check the boost air recirculation solenoid circuit between the engine control module and the control valve for a short circuit to power. Check the power supply to the control valve. Repair any wiring faults found. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ If no fault found in wiring harness suspect boost air recirculation solenoid failure
P0039-4B	Turbocharger /Supercharger Bypass Valve Control Circuit Range /Performance - Over temperature	■ Harness fault - Boost air recirculation solenoid circuit short to ground, short circuit to power, high resistance ■ Boost air recirculation solenoid failure	■ Refer to the electrical circuit diagrams and check the boost air recirculation solenoid circuit between the engine control module and the control valve for a short circuit to ground, short circuit to power, high resistance. Check the power supply to the control valve. Repair any wiring faults found. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ If no fault found in wiring harness suspect boost air recirculation solenoid failure

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P004A-00	Turbocharger /Supercharger Boost Control B Circuit/Open - No sub type information	■ Harness fault - Variable geometry turbocharger actuator vane control circuit open circuit	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, Commanded Boost Actuator Control Bank 2 (0x0533), Boost Pressure Actuator Bank 2 - controller output (0x03DE). Refer to the electrical circuit diagrams and check the variable geometry turbocharger actuator vane control circuit for open circuit. This circuit consists of a twisted pair of wires between the engine control module and the variable geometry turbocharger actuator vane control unit. Check both of the circuits for open circuit. Repair wiring as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the ‘Diagnosis Menu’ tab and retest
P004A-71	Turbocharger /Supercharger Boost Control B Circuit/Open - Actuator stuck	■ The engine control module has not detected any motion, in response to energizing a motor, solenoid or relay ■ Harness fault - Variable geometry turbocharger actuator vane control circuit open circuit ■ Variable geometry turbocharger actuator vane failure	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, Commanded Boost Actuator Control Bank 2 (0x0533), Boost Pressure Actuator Bank 2 - controller output (0x03DE). Refer to the electrical circuit diagrams and check the variable geometry turbocharger actuator vane control circuit for open circuit. This circuit consists of a twisted pair of wires between the engine control module and the variable geometry turbocharger actuator vane control unit. Check both of the circuits for open circuit. Repair wiring as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the ‘Diagnosis Menu’ tab and retest ■ Check and install a new turbocharger actuator vane control unit as required
P004B-16	Turbocharger /Supercharger Boost Control B Circuit Range /Performance - Circuit Voltage Below Threshold	■ The engine control module measured a voltage below a specified range but not necessarily a short circuit to ground ■ Harness fault - Variable geometry turbocharger actuator vane control circuit ■ Variable geometry turbocharger actuator vane control unit failure	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, Commanded Boost Actuator Control Bank 2 (0x0533). Refer to the electrical circuit diagrams and check the variable geometry turbocharger actuator vane control circuit for high resistance or short circuits to another circuit. This circuit consists of a twisted pair of wires between the engine control module and the variable geometry turbocharger actuator vane control unit. Check both of the circuits for faults. Repair wiring as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the ‘Diagnosis Menu’ tab and retest ■ If no fault found in wiring harness suspect variable geometry turbocharger control module failure

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P004B-19	Turbocharger /Supercharger Boost Control B Circuit Range /Performance - Circuit Current Above Threshold	■ Harness fault - Variable geometry turbocharger actuator vane control circuit short circuit to ground, short circuit to power, high resistance ■ Variable geometry turbocharger actuator vane control unit failure	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, Commanded Boost Actuator Control Bank 2 (0x0533). Refer to the electrical circuit diagrams and check the variable geometry turbocharger actuator vane control circuit for short circuit to ground, short circuit to power, high resistance. This circuit consists of a twisted pair of wires between the engine control module and the variable geometry turbocharger actuator vane control unit. Check both of the circuits for faults. Repair wiring as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ If no fault found in wiring harness suspect variable geometry turbocharger control module failure
P004B-1D	Turbocharger /Supercharger Boost Control B Circuit Range /Performance - Circuit Current Out Of Range	■ Harness fault - Variable geometry turbocharger actuator vane control circuit ■ Variable geometry turbocharger actuator vane control unit failure ■ Mechanical fault on actuator mechanism	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, Commanded Boost Actuator Control Bank 2 (0x0533). Refer to the electrical circuit diagrams and check the variable geometry turbocharger actuator vane control circuit for short circuits to another circuit. This circuit consists of a twisted pair of wires between the engine control module and the variable geometry turbocharger actuator vane control unit. Check both of the circuits for faults. Repair wiring as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ If no fault found in wiring harness check variable geometry turbocharger control module for failure ■ Check for mechanical fault on actuator mechanism
P004B-4B	Turbocharger /Supercharger Boost Control B Circuit Range /Performance - Over temperature	■ Harness fault - Variable geometry turbocharger actuator vane control circuit short circuit to ground, short circuit to power, high resistance. ■ Variable geometry turbocharger actuator vane control unit failure ■ Mechanical fault on actuator mechanism	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, Commanded Boost Actuator Control Bank 2 (0x0533). Refer to the electrical circuit diagrams and check the variable geometry turbocharger actuator vane control circuit for short circuit to ground, short circuit to power, high resistance. This circuit consists of a twisted pair of wires between the engine control module and the variable geometry turbocharger actuator vane control unit. Check both of the circuits for faults. Repair wiring as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ If no fault found in wiring harness check variable geometry turbocharger control module for failure ■ Check for mechanical fault on actuator mechanism

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P004C-00	Turbocharger /Supercharger Boost Control B Circuit Low - No sub type information	■ Harness fault - Variable geometry turbocharger actuator vane control circuit short circuit to ground	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, Commanded Boost Actuator Control Bank 2 (0x0533). Refer to the electrical circuit diagrams and check the variable geometry turbocharger actuator vane control circuit for short circuit to ground. This circuit consists of a twisted pair of wires between the engine control module and the variable geometry turbocharger actuator vane control unit. Check both sides of this circuit. Repair wiring as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest
P004C-11	Turbocharger /Supercharger Boost Control B Circuit Low - Circuit short to ground	■ The engine control module has detected a ground measurement for a period longer than expected or has detected a ground measurement when another value was expected ■ Harness fault - Variable geometry turbocharger actuator vane control circuit short circuit to ground	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, Commanded Boost Actuator Control Bank 2 (0x0533). Refer to the electrical circuit diagrams and check the variable geometry turbocharger actuator vane control circuit for short circuit to ground. This circuit consists of a twisted pair of wires between the engine control module and the variable geometry turbocharger actuator vane control unit. Repair wiring as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest
P004C-12	Turbocharger /Supercharger Boost Control B Circuit Low circuit - Short to battery	■ The engine control module has detected a vehicle power measurement for a period longer than expected or has detected a vehicle power measurement when another value was expected ■ Harness fault - Variable geometry turbocharger actuator vane control circuit short circuit to power	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, Commanded Boost Actuator Control Bank 2 (0x0533). Refer to the electrical circuit diagrams and check the variable geometry turbocharger actuator vane control circuit for short circuit to power. This circuit consists of a twisted pair of wires between the engine control module and the variable geometry turbocharger actuator vane control unit. Repair wiring as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest
P004C-77	Turbocharger /Supercharger Boost Control B Circuit Low - Commanded position not reachable	■ The engine control module is unable to command a motor, solenoid or relay, to move a piece of equipment to the commanded position either due to a failure in the actuator or its mechanical environment ■ Harness fault - Variable geometry turbocharger actuator vane control circuit short circuit to ground, high resistance, open circuit ■ Harness fault - Variable geometry turbocharger sensor circuit, short circuit to ground, high resistance, open circuit ■ Variable geometry turbocharger actuator vane control unit failure	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, Commanded Boost Actuator Control Bank 2 (0x0533). Refer to the electrical circuit diagrams and check the variable geometry turbocharger actuator vane control circuit for short circuit to ground, high resistance, open circuit. This circuit consists of a twisted pair of wires between the engine control module and the variable geometry turbocharger actuator vane control unit. Repair wiring as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ Refer to the electrical circuit diagrams and check the variable geometry turbocharger sensor circuit for short circuit to ground, high resistance, open circuit ■ If no fault found in wiring harness suspect variable geometry turbocharger control module failure or mechanical fault on actuator mechanism

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P004D-00	Turbocharger /Supercharger Boost Control B Circuit High - No sub type information	■ Harness fault - Variable geometry turbocharger actuator vane control circuit short circuit to power	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, Commanded Boost Actuator Control Bank 2 (0x0533). Refer to the electrical circuit diagrams and check the boost control circuit for short circuit to power. This circuit consists of a twisted pair of wires between the engine control module and the variable geometry turbocharger actuator vane control unit. Check both sides of this circuit. Repair wiring as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest
P004D-77	Turbocharger /Supercharger Boost Control B Circuit High - Commanded Position Not Reachable	■ The engine control module is unable to command a motor, solenoid or relay, to move a piece of equipment to the commanded position either due to a failure in the actuator or its mechanical environment ■ Harness fault - Variable geometry turbocharger actuator vane control circuit short circuit to power ■ Harness fault - Variable geometry turbocharger sensor circuit, short circuit to power ■ Variable geometry turbocharger actuator vane control unit failure	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, Commanded Boost Actuator Control Bank 2 (0x0533). Refer to the electrical circuit diagrams and check the variable geometry turbocharger actuator vane control circuit for short circuit to power. This circuit consists of a twisted pair of wires between the engine control module and the variable geometry turbocharger actuator vane control unit. Repair wiring as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ Refer to the electrical circuit diagrams and check the variable geometry turbocharger sensor circuit for short circuit to power ■ If no fault found in wiring harness suspect variable geometry turbocharger control module failure or mechanical fault on actuator mechanism
P006A-00	MAP - Mass or Volume Air Flow Correlation - No sub type information	■ Intake air system, high pressure boost leak bank 1 ■ Intake air system, high pressure boost leak bi-turbo mode bank 2 ■ Intake air system, low pressure boost leak bank 1 ■ Intake air system, low pressure boost leak bank 2	■ If this DTC is logged with P1247-00, P0402-00 & P00BF-07, suspect intake air system, high pressure boost leak bank 1 ■ If this DTC is logged with P1247-00, suspect intake air system, high pressure boost leak bi-turbo mode bank 2 ■ If this DTC is logged with P00BE-07 & P0401-00, suspect intake air system, low pressure boost leak bank 1 ■ If this DTC is logged with P00BC-00, suspect intake air system, low pressure boost leak bank 2 ■ Using the Jaguar Land Rover approved diagnostic system, perform the (Turbo, EGR and air path dynamic test) routine

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P006A-22	MAP - Mass or Volume Air Flow Correlation - Signal Amplitude > Maximum	■ The engine control module measured a signal voltage above a specified range but not necessarily a short circuit to power, gain too high ■ Error path indicating whether over boost monitoring is active or not ■ Fault in induction air circuit ■ Fault in boost air circuit ■ Mass air flow sensor circuit short circuit to ground, short circuit to power, high resistance, open circuit ■ Manifold absolute pressure sensor circuit short circuit to ground, short circuit to power, high resistance, open circuit ■ Mass air flow sensor failure ■ Manifold absolute pressure sensor failure	■ Check for other DTCs associated with intake and boost airflow control actuators, refer to the relevant DTC index and act on those DTCs first ■ Refer to workshop manual and check intake air circuit, boost air circuit and associated control valves, intercooler and air filter for leaks, blockages, restrictions and control valve actuator malfunctions ■ Refer to the electrical circuit diagrams and check both mass air flow sensor circuits for short circuit to ground, short circuit to power, high resistance, open circuit. Repair wiring as required ■ Check manifold absolute pressure sensor wiring circuits for short circuit to ground, short circuit to power, high resistance, open circuit. Repair wiring as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ If no fault found in wiring harness suspect mass air flow sensor or manifold absolute pressure sensor. Check and install a new mass air flow or manifold absolute pressure sensor as required
P0070-16	Ambient Air Temperature Sensor Circuit - Circuit Voltage Below Threshold	**NOTE:** Circuit reference - AMBIENT_AIR_TEMP ■ The engine control module measured a voltage below a specified range but not necessarily a short circuit to ground ■ Harness fault - Ambient air temperature sensor circuit ■ Ambient air temperature sensor fault	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, Ambient Air Temperature Sensor Voltage (0x03BA), Ambient Air Temperature (0xF466). This DTC is set when the ambient air temperature sensor signal line voltage at the engine control module is less than the threshold value. The ambient air temperature sensor thermistor is mounted in the left door mirror and the circuit consists of a ambient air temperature sensor signal line and a sensor ground circuit. Refer to the electrical circuit diagrams and check both sides of the circuit for high resistance or short circuits. Repair wiring as required ■ If no faults are found in the wiring circuits suspect the ambient air temperature sensor, refer to the relevant section of the workshop manual and check the sensor operation
P0070-17	Ambient Air Temperature Sensor Circuit - Circuit Voltage Above Threshold	**NOTE:** Circuit reference - AMBIENT_AIR_TEMP ■ The engine control module measured a voltage above a specified range but not necessarily a short circuit to power ■ Harness fault - Ambient air temperature sensor circuit ■ Ambient air temperature sensor fault	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, Ambient Air Temperature Sensor Voltage (0x03BA), Ambient Air Temperature (0xF466). This DTC is set when the ambient air temperature sensor signal line voltage at the engine control module is greater than the threshold value. The ambient air temperature sensor thermistor is mounted in the left door mirror and the circuit consists of a ambient air temperature sensor signal line and a sensor ground circuit. Refer to the electrical circuit diagrams and check both sides of the circuit for high resistance or short circuits. Repair wiring as required ■ If no faults are found in the wiring circuits suspect the ambient air temperature sensor, refer to the relevant section of the workshop manual and check the sensor operation

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P007A-16	Charge Air Cooler Temperature Sensor Circuit (Bank 1) - Circuit Voltage Below Threshold	**NOTE:** Circuit reference - ACT ■ The engine control module measured a voltage below a specified range but not necessarily a short circuit to ground ■ Harness fault - Air charge temperature sensor circuit ■ Air charge temperature sensor fault	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, Charge Air Temperature Voltage (0x03EE). This DTC is set when the air charge temperature sensor signal line voltage at the engine control module is less than the threshold value. The air charge temperature sensor thermistor is located in the air intake system downstream of the intercooler and consists of a signal line and a sensor ground circuit. Refer to the electrical circuit diagrams and check both sides of the circuit for high resistance or short circuits. Repair wiring as required ■ If no faults are found in the wiring circuits suspect the air charge temperature sensor, refer to the relevant section of the workshop manual and check the sensor operation
P007A-17	Charge Air Cooler Temperature Sensor Circuit (Bank 1) - Circuit Voltage Above Threshold	**NOTE:** Circuit reference - ACT ■ The engine control module measured a voltage above a specified range but not necessarily a short circuit to power ■ Harness fault - Air charge temperature sensor circuit ■ Air charge temperature sensor fault	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, Air Charge Temperature (0x051C). This DTC is set when the air charge temperature sensor signal line voltage at the engine control module is greater than the threshold value. The air charge temperature sensor thermistor is located in the air intake system downstream of the intercooler and consists of a signal line and a sensor ground circuit. Refer to the electrical circuit diagrams and check both sides of the circuit for high resistance or short circuits. Repair wiring as required ■ If no faults are found in the wiring circuits suspect the air charge temperature sensor, refer to the relevant section of the workshop manual and check the sensor operation
P007A-62	Charge Air Cooler Temperature Sensor Circuit (Bank 1) - Signal Compare Failure	■ The engine control module detected failure when comparing two or more input parameters for plausibility ■ Harness fault - Air charge temperature sensor circuit short circuit to ground, short circuit to power, high resistance, open circuit ■ Air charge temperature sensor fault	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, Charge Air Temperature Voltage (0x03EE). Refer to the electrical circuit diagrams and check air charge temperature sensor circuit for short circuit to ground, short circuit to power, high resistance, open circuit. Repair wiring as required ■ If no faults are found in the wiring circuits suspect the air charge temperature sensor, refer to the relevant section of the workshop manual and check the sensor operation

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P0087-00	Fuel Rail /System Pressure - Too Low - No sub type information	■ Low level fuel condition ■ Blocked fuel filter ■ Fuel gauge sender unit sticking ■ Fuel rail pressure sensor signal circuit short circuit to power ■ Fuel lines restricted ■ Fuel lines leaking ■ Fuel pump failure ■ Fuel rail pressure sensor signal circuit short circuit to ground ■ Fuel rail pressure sensor signal circuit open circuit ■ Fuel rail pressure sensor circuit high resistance ■ Fuel rail pressure sensor failure	■ Check the fuel volume available in the fuel tank is sufficient, add fuel as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the ‘Diagnosis Menu’ tab and retest ■ Using the Jaguar Land Rover approved diagnostic equipment, measure the fuel pressure drop across the fuel filter (2 measurement points) ■ Measure point 1 (Input side of the fuel filter) Install 0 -14 Bar pressure gauge between Fuel Supply to Fuel Filter Pipe and Fuel filter ■ Engine at idle expected fuel pressure 7 psi (0.5 bar) ■ Engine at 3000 RPM expected fuel pressure 7 psi (0.5 bar) ■ Measure point 2 (Output side of the fuel filter) Install 0 -14 Bar pressure gauge between Fuel filter and Fuel Filter to High Pressure Diesel Injector Pump Pipe ■ Engine at idle expected fuel pressure 7 psi (0.5 bar) ■ Engine at 3000 RPM expected fuel pressure 7 psi (0.5 bar) ■ Fuel filter is blocked or starting to block if fuel pressure (output side of the fuel filter) is lower than fuel pressure (input side of the fuel filter) ■ Install a new fuel filter, only when diagnosed as blocked ■ Check the fuel gauge sender units for correct operation ■ Refer to the electrical circuit diagrams and check fuel rail pressure sensor circuit for short circuit to power ■ Check fuel lines for restriction ■ Check fuel lines for leakage ■ Check for fuel pump related DTCs and refer to the relevant DTC index ■ Refer to the electrical circuit diagrams and check fuel rail pressure sensor circuit for short circuit to ground, open circuit, high resistance ■ Repair wiring as required. If no wiring faults are found suspect fuel rail pressure sensor

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P0087-16	Fuel Rail /System Pressure - Too Low - Circuit Voltage Below Threshold	■ The engine control module measured a voltage below a specified range but not necessarily a short circuit to ground ■ Blocked fuel filter ■ Fuel rail pressure sensor circuit, short circuit to ground, open circuit, high resistance ■ Fuel rail pressure sensor failure	■ Using the Jaguar Land Rover approved diagnostic equipment, measure the fuel pressure drop across the fuel filter (2 measurement points) ■ Measure point 1 (Input side of the fuel filter) Install 0 -14 Bar pressure gauge between Fuel Supply to Fuel Filter Pipe and Fuel filter ■ Engine at idle expected fuel pressure 7 psi (0.5 bar) ■ Engine at 3000 RPM expected fuel pressure 7 psi (0.5 bar) ■ Measure point 2 (Output side of the fuel filter) Install 0 -14 Bar pressure gauge between Fuel filter and Fuel Filter to High Pressure Diesel Injector Pump Pipe ■ Engine at idle expected fuel pressure 7 psi (0.5 bar) ■ Engine at 3000 RPM expected fuel pressure 7 psi (0.5 bar) ■ Fuel filter is blocked or starting to block if fuel pressure (output side of the fuel filter) is lower than fuel pressure (input side of the fuel filter) ■ Install a new fuel filter, only when diagnosed as blocked ■ Refer to the electrical circuit diagrams and check fuel rail pressure sensor circuit for short circuit to ground, open circuit, high resistance ■ Repair wiring as required. If no wiring faults are found suspect fuel rail pressure sensor

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P0087-21	Fuel Rail /System Pressure - Too Low - Signal Amplitude < Minimum	■ The engine control module measured a signal voltage below a specified range but not necessarily a short circuit to ground, gain low ■ Blocked fuel filter ■ Fuel lines restricted ■ Fuel lines leaking ■ Fuel injector's stuck open, leaking ■ Fuel pump failure ■ Fuel rail pressure sensor circuit short circuit to ground, open circuit, high resistance ■ Fuel pressure control valve circuit short circuit to ground, open circuit, high resistance ■ Fuel volume control valve circuit short circuit to ground, open circuit, high resistance ■ Fuel rail pressure sensor failure ■ Fuel pressure control valve failure ■ Fuel volume control valve failure	■ Using the Jaguar Land Rover approved diagnostic equipment, measure the fuel pressure drop across the fuel filter (2 measurement points) ■ Measure point 1 (Input side of the fuel filter) Install 0 -14 Bar pressure gauge between Fuel Supply to Fuel Filter Pipe and Fuel filter ■ Engine at idle expected fuel pressure 7 psi (0.5 bar) ■ Engine at 3000 RPM expected fuel pressure 7 psi (0.5 bar) ■ Measure point 2 (Output side of the fuel filter) Install 0 -14 Bar pressure gauge between Fuel filter and Fuel Filter to High Pressure Diesel Injector Pump Pipe ■ Engine at idle expected fuel pressure 7 psi (0.5 bar) ■ Engine at 3000 RPM expected fuel pressure 7 psi (0.5 bar) ■ Fuel filter is blocked or starting to block if fuel pressure (output side of the fuel filter) is lower than fuel pressure (input side of the fuel filter) ■ Install a new fuel filter, only when diagnosed as blocked ■ Check fuel lines for restriction ■ Check fuel lines for leakage ■ Check fuel injector's for stuck open, leakage ■ Check for fuel pump related DTCs and refer to the relevant DTC index ■ Refer to the electrical circuit diagrams and check fuel rail pressure sensor circuit for short circuit to ground, open circuit, high resistance ■ Refer to the electrical circuit diagrams and check fuel pressure control valve circuit for short circuit to ground, open circuit, high resistance ■ Refer to the electrical circuit diagrams and check fuel volume control valve circuit for short circuit to ground, open circuit, high resistance ■ If no wiring faults are found suspect fuel rail pressure sensor ■ If no wiring faults are found suspect fuel pressure control valve ■ If no wiring faults are found suspect fuel volume control valve

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P0088-00	Fuel Rail /System Pressure - Too High - No sub type information	■ Blocked fuel filter ■ Fuel gauge sender unit sticking ■ Fuel rail pressure sensor signal circuit short circuit to power ■ Fuel rail pressure sensor ground circuit high resistance ■ Fuel rail pressure sensor ground circuit open circuit ■ Fuel pressure control valve circuit short circuit to power, ground, open circuit, high resistance ■ Fuel volume control valve circuit short circuit to power, ground, open circuit, high resistance ■ Fuel rail pressure sensor failure ■ Fuel pressure control valve failure ■ Fuel volume control valve failure	■ Using the Jaguar Land Rover approved diagnostic equipment, measure the fuel pressure drop across the fuel filter (2 measurement points) ■ Measure point 1 (Input side of the fuel filter) Install 0 -14 Bar pressure gauge between Fuel Supply to Fuel Filter Pipe and Fuel filter ■ Engine at idle expected fuel pressure 7 psi (0.5 bar) ■ Engine at 3000 RPM expected fuel pressure 7 psi (0.5 bar) ■ Measure point 2 (Output side of the fuel filter) Install 0 -14 Bar pressure gauge between Fuel filter and Fuel Filter to High Pressure Diesel Injector Pump Pipe ■ Engine at idle expected fuel pressure 7 psi (0.5 bar) ■ Engine at 3000 RPM expected fuel pressure 7 psi (0.5 bar) ■ Fuel filter is blocked or starting to block if fuel pressure (output side of the fuel filter) is lower than fuel pressure (input side of the fuel filter) ■ Install a new fuel filter, only when diagnosed as blocked ■ Check the fuel gauge sender units for correct operation ■ Refer to the electrical circuit diagrams and check fuel rail pressure sensor circuit for short circuit to power ■ Refer to the electrical circuit diagrams and check fuel rail pressure sensor ground circuit for high resistance ■ Refer to the electrical circuit diagrams and check fuel rail pressure sensor ground circuit for open circuit ■ Refer to the electrical circuit diagrams and check fuel pressure control valve circuit for short circuit to power, ground, open circuit, high resistance ■ Refer to the electrical circuit diagrams and check fuel volume control valve circuit for short circuit to power, ground, open circuit, high resistance ■ If no wiring faults are found suspect fuel rail pressure sensor ■ If no wiring faults are found suspect fuel pressure control valve ■ If no wiring faults are found suspect fuel volume control valve

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P0088-17	Fuel Rail /System Pressure - Too High - circuit voltage above threshold	■ The engine control module measured a voltage above a specified range but not necessarily a short circuit to power ■ Blocked fuel filter ■ Fuel rail pressure sensor signal circuit short circuit to power	■ Using the Jaguar Land Rover approved diagnostic equipment, measure the fuel pressure drop across the fuel filter (2 measurement points) ■ Measure point 1 (Input side of the fuel filter) Install 0 -14 Bar pressure gauge between Fuel Supply to Fuel Filter Pipe and Fuel filter ■ Engine at idle expected fuel pressure 7 psi (0.5 bar) ■ Engine at 3000 RPM expected fuel pressure 7 psi (0.5 bar) ■ Measure point 2 (Output side of the fuel filter) Install 0 -14 Bar pressure gauge between Fuel filter and Fuel Filter to High Pressure Diesel Injector Pump Pipe ■ Engine at idle expected fuel pressure 7 psi (0.5 bar) ■ Engine at 3000 RPM expected fuel pressure 7 psi (0.5 bar) ■ Fuel filter is blocked or starting to block if fuel pressure (output side of the fuel filter) is lower than fuel pressure (input side of the fuel filter) ■ Install a new fuel filter, only when diagnosed as blocked ■ Refer to the electrical circuit diagrams and check fuel rail pressure sensor circuit for short circuit to power

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P0088-22	Fuel Rail /System Pressure - Too High - Signal Amplitude > Maximum	■ The engine control module measured a signal voltage above a specified range but not necessarily a short circuit to power, gain too high ■ Blocked fuel filter ■ Fuel gauge sender unit sticking ■ Fuel lines restricted ■ Fuel rail pressure sensor circuit short circuit to power, ground, open circuit, high resistance ■ Fuel pressure control valve circuit short circuit to power, ground, open circuit, high resistance ■ Fuel volume control valve circuit short circuit to power, ground, open circuit, high resistance ■ Fuel rail pressure sensor failure ■ Fuel pressure control valve failure ■ Fuel volume control valve failure ■ Fuel pump failure	■ Using the Jaguar Land Rover approved diagnostic equipment, measure the fuel pressure drop across the fuel filter (2 measurement points) ■ Measure point 1 (Input side of the fuel filter) Install 0 -14 Bar pressure gauge between Fuel Supply to Fuel Filter Pipe and Fuel filter ■ Engine at idle expected fuel pressure 7 psi (0.5 bar) ■ Engine at 3000 RPM expected fuel pressure 7 psi (0.5 bar) ■ Measure point 2 (Output side of the fuel filter) Install 0 -14 Bar pressure gauge between Fuel filter and Fuel Filter to High Pressure Diesel Injector Pump Pipe ■ Engine at idle expected fuel pressure 7 psi (0.5 bar) ■ Engine at 3000 RPM expected fuel pressure 7 psi (0.5 bar) ■ Fuel filter is blocked or starting to block if fuel pressure (output side of the fuel filter) is lower than fuel pressure (input side of the fuel filter) ■ Install a new fuel filter, only when diagnosed as blocked ■ Check the fuel gauge sender units for correct operation ■ Check fuel lines for restriction ■ Refer to the electrical circuit diagrams and check fuel rail pressure sensor circuit for short circuit to power, ground, open circuit, high resistance ■ Refer to the electrical circuit diagrams and check fuel pressure control valve circuit for short circuit to power, ground, open circuit, high resistance ■ Refer to the electrical circuit diagrams and check fuel volume control valve circuit for short circuit to power, ground, open circuit, high resistance ■ If no wiring faults are found suspect fuel rail pressure sensor ■ If no wiring faults are found suspect fuel pressure control valve ■ If no wiring faults are found suspect fuel volume control valve ■ Check for fuel pump related DTCs and refer to the relevant DTC index

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P0089-21	Fuel Pressure Regulator Performance - Signal Amplitude < Minimum	■ The engine control module measured a signal voltage below a specified range but not necessarily a short circuit to ground, gain low ■ Fuel pressure regulator signal circuit short circuit to ground ■ Fuel pressure regulator signal circuit open circuit ■ Fuel pressure regulator reference voltage circuit high resistance ■ Fuel pressure regulator failure	■ Refer to the electrical circuit diagrams and check fuel pressure regulator circuit for short circuit to ground ■ Refer to the electrical circuit diagrams and check fuel pressure regulator circuit for open circuit ■ Refer to the electrical circuit diagrams and check fuel pressure regulator reference voltage circuit for high resistance ■ If no wiring faults are found suspect fuel rail pressure sensor
P0089-22	Fuel Pressure Regulator Performance - Signal Amplitude > Maximum	■ The engine control module measured a signal voltage above a specified range but not necessarily a short circuit to power, gain too high ■ Fuel pressure regulator signal circuit short circuit to power ■ Fuel pressure regulator failure	■ Refer to the electrical circuit diagrams and check fuel pressure regulator circuit for short circuit to power ■ If no wiring faults are found suspect fuel rail pressure sensor
P0090-13	Fuel Pressure Regulator 1 Control Circuit /Open - Circuit open	**NOTE:** Circuit reference - PCV ■ The engine control module has determined an open circuit via lack of bias voltage, low current flow, no change in the state of an input in response to an output ■ Harness fault - Fuel pressure control valve control circuit open circuit	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, Fuel Pressure Relief Control Valve Duty Cycle (0x03C3). Refer to the electrical circuit diagrams and check the fuel pressure control valve control circuit for open circuit. Repair wiring as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest
P0090-4B	Fuel Pressure Regulator 1 Control Circuit /Open - Over temperature	■ Fuel pressure control valve signal circuit short circuit to power, open circuit ■ Fuel pressure regulator failure	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, Fuel Pressure Relief Control Valve Duty Cycle (0x03C3). Refer to the electrical circuit diagrams and check fuel pressure control valve circuit for short circuit to power, open circuit ■ If no wiring faults are found suspect fuel rail pressure sensor

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P0091-11	Fuel Pressure Regulator 1 Control Circuit Low - Circuit short to ground	**NOTE:** Circuit reference - PCV ■ The engine control module has detected a ground measurement for a period longer than expected or has detected a ground measurement when another value was expected ■ Harness fault - Fuel pressure control valve circuit short circuit to ground ■ Fuel pressure control valve failure	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, Fuel Pressure Relief Control Valve Duty Cycle (0x03C3). Refer to the electrical circuit diagrams and check the fuel pressure control valve circuit for short circuit to ground. Check harness from engine control module to control valve connector for external damage caused by chafing or heat. Check power supply circuit to control valve. Repair wiring as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ If no wiring faults are found suspect the fuel pressure control valve
P0091-16	Fuel Pressure Regulator 1 Control Circuit Low - Circuit Voltage Below Threshold	**NOTE:** Circuit reference - PCV ■ The engine control module measured a voltage below a specified range but not necessarily a short circuit to ground ■ Harness fault - Fuel pressure control valve circuit ■ Fuel pressure control valve failure	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, Fuel Pressure Relief Control Valve Duty Cycle (0x03C3). This DTC is set when the voltage on the fuel pressure control valve circuit is less than the threshold expected by the engine control module. Check harness from engine control module to control valve connector for external damage caused by chafing or heat. Refer to the electrical circuit diagrams and check the power supply circuit to the control valve. Check the control circuit between the engine control module and the fuel pressure control valve for faults such as high resistance, short circuit to ground, intermittent open circuit. Repair wiring as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ If no wiring faults are found suspect the fuel pressure control valve
P0092-12	Fuel Pressure Regulator 1 Control Circuit High - Circuit short to battery	**NOTE:** Circuit reference - PCV ■ The engine control module has detected a vehicle power measurement for a period longer than expected or has detected a vehicle power measurement when another value was expected ■ Harness fault - Fuel pressure control valve circuit short circuit to power	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, Fuel Pressure Relief Control Valve Duty Cycle (0x03C3). Refer to the electrical circuit diagrams and check the fuel pressure control valve circuit for short circuit to power. Check harness from engine control module to control valve connector for external damage caused by chafing or heat. Check power supply circuit to control valve. Repair wiring as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P0092-17	Fuel Pressure Regulator 1 Control Circuit High - Circuit Voltage Above Threshold	**NOTE:** Circuit reference - PCV ■ The engine control module measured a voltage above a specified range but not necessarily a short circuit to power ■ Harness fault - Fuel pressure control valve circuit ■ Fuel pressure control valve failure	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, Fuel Pressure Relief Control Valve Duty Cycle (0x03C3). This DTC is set when the voltage on the fuel pressure control valve circuit is more than the threshold expected by the engine control module. Check harness from engine control module to fuel pressure control valve connector for external damage caused by chafing or heat. Refer to the electrical circuit diagrams and check the control circuit between the engine control module and the fuel pressure control valve for faults such as high resistance, short circuit to power. Repair wiring as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ If no wiring faults are found suspect the fuel pressure control valve
P00AA-16	Intake Air Temperature Sensor 1 Circuit (Bank 2) - Circuit Voltage Below Threshold	**NOTES:** ■ Circuit reference - AIR_INTAKE_TEMP ■ Circuit diagram component name maf/iat sensor ■ The engine control module measured a voltage below a specified range but not necessarily a short circuit to ground ■ Harness fault - Intake air temperature sensor circuit ■ Intake air temperature sensor fault (part of mass air flow sensor)	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, Intake Air Temperature Sensor (0x1279), Intake Air Temperature (0xF40F). This DTC is set when the voltage on the intake air temperature sensor circuit is less than the threshold expected by the engine control module. The intake air temperature sensor is integrated into the electronics package of the mass air flow. The sensor circuit consists of a thermistor exposed to air passing through the mass air flow sensor, the engine control module signal line voltage passes though the thermistor and shares the same ground circuit as the mass air flow element of the sensor. Check the harness between the engine control module and the mass airflow sensor for damage caused by chaffing or heat. Refer to the electrical circuit diagrams and check all the circuits connected to the mass air flow sensor for open circuits, short circuits, high resistance and intermittent connections. Check mass airflow sensor 2 circuits as both sensors share the ground connection. Repair wiring as required, Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ If the DTC resets and there are no harness faults suspect the intake air temperature sensor fault (part of mass air flow sensor)

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P00AA-17	Intake Air Temperature Sensor 1 Circuit (Bank 2) - Circuit Voltage Above Threshold	**NOTES:** ■ Circuit reference - AIR_INTAKE_TEMP ■ Circuit diagram component name maf/iat sensor ■ The engine control module measured a voltage above a specified range but not necessarily a short circuit to power ■ Harness fault - Intake air temperature sensor circuit ■ Intake air temperature sensor fault (part of mass air flow sensor)	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, Intake Air Temperature Sensor (0x1279), Intake Air Temperature (0xF40F). This DTC is set when the voltage on the intake air temperature sensor circuit is greater than the threshold expected by the engine control module. The intake air temperature sensor is integrated into the electronics package of the mass air flow. The sensor circuit consists of a thermistor exposed to air passing through the mass air flow sensor, the engine control module signal line voltage passes though the thermistor and shares the same ground circuit as the mass air flow element of the sensor. Check the harness between the engine control module and the mass airflow sensor for damage caused by chaffing or heat. Refer to the electrical circuit diagrams and check all the circuits connected to the mass air flow sensor for open circuits, short circuits, high resistance and intermittent connections. Check mass airflow sensor 2 circuits as both sensors share the ground connection. Repair wiring as required, Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the ‘Diagnosis Menu’ tab and retest ■ If the DTC resets and there are no harness faults suspect the intake air temperature sensor fault (part of mass air flow sensor)
P00AA-62	Intake Air Temperature Sensor 1 Circuit (Bank 2) - Signal Compare Failure	■ The engine control module detected failure when comparing two or more input parameters for plausibility ■ Harness fault - Intake air temperature sensor circuit ■ Intake air temperature sensor fault (part of mass air flow sensor)	■ Check the harness between the engine control module and the mass airflow sensor for damage caused by chaffing or heat. Refer to the electrical circuit diagrams and check all the circuits connected to the mass air flow sensor for open circuit, short circuit, high resistance and intermittent connections. Check mass airflow sensor 2 circuits as both sensors share the ground connection. Repair wiring as required, Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the ‘Diagnosis Menu’ tab and retest ■ If the DTC resets and there are no harness faults suspect the intake air temperature sensor fault (part of mass air flow sensor)
P00BC-00	Mass or Volume Air Flow A Circuit Range /Performance - Air Flow Too Low - No sub type information	■ Boost air solenoid stuck shut bi-turbo mode ■ Turbine intake solenoid stuck shut ■ Intake system low pressure boost leak bank 2	■ If this DTC is logged with P1247-00, suspect boost air solenoid stuck shut bi-turbo mode ■ If this DTC is logged with P22D3-77 & P22CF-71, suspect turbine intake solenoid stuck shut ■ Check the vacuum system, Charge air shut-off valve and Turbine intake shut-off valve operation. **Refer to section 303-04B or 303-04D and perform pinpoint test A Vacuum Control System Tests** ■ If this DTC is logged with P006A-00, suspect intake system low pressure boost leak bank 2

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P00BC-07	Mass or Volume Air Flow A Circuit Range /Performance - Air Flow Too Low - Mechanical Failures	**NOTE:** Circuit diagram component name maf/iat sensor ■ Airflow disruption at sensing element of mass air flow sensor ■ Mass air flow sensor failure	■ This DTC is set if the mass air flow signal from sensor 1 is less than the value expected by the engine control module. Refer to the relevant sections of the workshop manual and check the induction system for air leaks and obstructions to flow. Check the condition of the air filter and examine the induction pipes for debris which could disrupt air flow at the sensing element. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ If the DTC resets and there are no harness faults suspect the mass air flow sensor
P00BC-64	Mass or Volume Air Flow A Circuit Range /Performance - Air Flow Too Low - Signal Plausibility Failure	■ The engine control module detected plausibility failures ■ Boost air solenoid stuck shut bi-turbo mode ■ Turbine intake solenoid stuck shut ■ Intake system low pressure boost leak bank 2	■ If this DTC is logged with P1247-00, suspect boost air solenoid stuck shut bi-turbo mode ■ If this DTC is logged with P22D3-77 & P22CF-71, suspect turbine intake solenoid stuck shut ■ If this DTC is logged with P006A-00, suspect intake system low pressure boost leak bank 2 ■ Refer to the relevant sections of the workshop manual and check the induction system for air leaks and obstructions to flow. Check the condition of the air filter and examine the induction pipes for debris which could disrupt air flow at the sensing element. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest
P00BD-00	Mass or Volume Air Flow A Circuit Range /Performance - Air Flow Too High - No sub type information	**NOTE:** Circuit diagram component name maf/iat sensor ■ Air leak at air intake system A ■ Harness fault - Mass air flow sensor circuit short circuit to power ■ Mass air flow sensor failure	■ Refer to the relevant sections of the workshop manual and check the induction system for air leaks ■ Refer to the electrical circuit diagrams and check mass air flow sensor for short circuit to power. Repair wiring as required, Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ If the DTC resets and there are no harness faults suspect the mass air flow sensor

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P00BD-07	Mass or Volume Air Flow A Circuit Range /Performance - Air Flow Too High - Mechanical Failures	■ Boost air solenoid stuck open mono turbo mode ■ Turbine intake solenoid leakage when closed ■ Turbine intake solenoid stuck open ■ Intake air system, blocked low pressure air intake. This failure mode can be caused by snow packing in the intake system. Symptoms often disappear after the vehicle has been warmed and heat soaked. Similar symptoms to seized primary turbo ■ Primary turbo charger seized	■ If this DTC is logged with P0235-94 suspect, boost air solenoid stuck open mono turbo mode ■ If this DTC is logged with P0235-94 suspect, turbine intake solenoid leakage when closed ■ If this DTC is logged with P0235-94, P22D2-77, P1247-00 & P22CF-71 suspect, turbine intake solenoid stuck open ■ Check the vacuum system, Charge air shut-off valve and Turbine intake shut-off valve operation. **Refer to section 303-04B or 303-04D and perform pinpoint test A Vacuum Control System Tests** ■ If this DTC is logged with P0235-94, P22D2-77, P1247-00 & P22CF-71 suspect, intake air system, blocked low pressure air intake ■ If this DTC is logged with P00BE-07 & P1247-00 suspect, primary turbocharger seized ■ Using the Jaguar Land Rover Approved Diagnostic Equipment, perform the (Turbo, EGR and air path dynamic test) routine
P00BD-64	Mass or Volume Air Flow A Circuit Range /Performance - Air Flow Too High - Signal Plausibility Failure	■ The engine control module detected plausibility failures ■ Boost air solenoid stuck open mono turbo mode ■ Turbine intake solenoid leakage when closed ■ Turbine intake solenoid stuck open mono turbo mode ■ Intake system high pressure bank 2 in mono turbo mode	■ If this DTC is logged with P0235-94 suspect, boost air solenoid stuck open mono turbo mode ■ If this DTC is logged with P0235-94 suspect, turbine intake solenoid leakage when closed ■ If this DTC is logged with P0235-94, P22D2-77, P1247-00 & P22CF-71 suspect, turbine intake solenoid stuck open ■ Using the Jaguar Land Rover approved diagnostic system, perform the (Turbo, EGR and air path dynamic test) routine
P00BE-00	Mass or Volume Air Flow B Circuit Range /Performance - Air Flow Too Low - No sub type information	■ Intake air system, high pressure boost leak ■ Air leak at air intake system ■ Charge air shut-off valve failure ■ Turbine intake shut-off valve failure	■ Check and correct intake air system, high pressure boost leak ■ Check and correct air leak at air intake system ■ Check the vacuum system, Charge air shut-off valve and Turbine intake shut-off valve operation. **Refer to section 303-04B or 303-04D and perform pinpoint test A Vacuum Control System Tests** ■ Using the Jaguar Land Rover Approved Diagnostic Equipment, clear all stored DTCs and retest

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P00BE-07	Mass or Volume Air Flow B Circuit Range /Performance - Air Flow Too Low - Mechanical Failures	■ Boost air recirculation solenoid stuck open bi-turbo mode ■ Airflow disruption at sensing element of mass air flow sensor 2 ■ Mass air flow sensor 2 circuit short circuit to ground, open circuit, high resistance ■ Mass air flow sensor 2 failure	■ If this DTC is logged with P1247-00, suspect boost air recirculation solenoid stuck open ■ Check the vacuum system, Charge air shut-off valve and Turbine intake shut-off valve operation. **Refer to section 303-04B or 303-04D and perform pinpoint test A Vacuum Control System Tests** ■ Check the condition of the air filter and examine the induction pipes for debris which could disrupt air flow at the sensing element ■ Refer to the electrical circuit diagrams and check the mass air flow sensor 2 for short circuit to ground, open circuit, high resistance. Repair wiring as required, Using the Jaguar Land Rover Approved Diagnostic Equipment, clear all stored DTCs and retest ■ If the DTC resets suspect the mass air flow sensor. Check and install a new mass air flow sensor 2 as required
P00BF-00	Mass or Volume Air Flow B Circuit Range /Performance - Air Flow Too High - No sub type information	■ Charge air shut-off valve failure ■ Turbine intake shut-off valve failure ■ Intake air system, high pressure boost leak	■ Check the vacuum system, Charge air shut-off valve and Turbine intake shut-off valve operation. **Refer to section 303-04B or 303-04D and perform pinpoint test A Vacuum Control System Tests** ■ Check and correct intake air system, high pressure boost leak ■ Using the Jaguar Land Rover Approved Diagnostic Equipment, clear all stored DTCs and retest
P00BF-07	Mass or Volume Air Flow B Circuit Range /Performance - Air Flow Too High - Mechanical Failures	■ Intake air system, high pressure boost leak bank 1	■ If this DTC is logged with P1247-00, P006A-00 & P00BF-07, suspect intake air system, high pressure boost leak bank 1

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P00CF-62	Secondary Compressor Outlet Pressure Sensor - Signal compare failure	■ The engine control module detected failure when comparing two or more input parameters for plausibility ■ Boost air circuit leak or blockage ■ Boost air recirculation solenoid fault ■ Boost air solenoid fault ■ Mechanical fault - Sensor hose blocked or leaking ■ Harness fault - Boost air pressure sensor circuit ■ Boost air pressure sensor failure	■ This DTC is set when the engine control module detects a signal compare failure on the boost air pressure sensor signal. Check the sensor hose for blockages or leaks. Check the sensor and harness for mechanical damage caused by heat or chaffing. Check for DTCs relating to faults on the Accelerator Pedal Position sensor as these sensors share power supply and ground connections ■ The boost air pressure sensor has three circuits, a 5 volt supply, a sensor ground and an analogue voltage signal line. Refer to the electrical circuit diagrams and check the sensor voltage and ground supplies for open circuits or short circuit to ground. Check the signal line for open circuit, short circuit to power, short circuit to ground. Repair the wiring harness as required ■ If no fault found in wiring harness suspect boost air pressure sensor failure. The sensor provides an analogue voltage output in response to the pressure applied at the sensing orifice. The output voltage range is between 0.2 and 4.8 volts
P0101-21	Mass or Volume Air Flow A Circuit Range /Performance - Signal Amplitude < Minimum	**NOTE:** Circuit diagram component name maf/iat sensor ■ The engine control module measured a signal voltage below a specified range but not necessarily a short circuit to ground, gain low ■ Airflow disruption at sensing element of mass air flow sensor ■ Harness fault - Mass air flow sensor circuit short circuit to ground, high resistance, open circuit ■ Mass air flow sensor failure	■ This DTC is set if the mass air flow signal from sensor 1 is less than the value expected by the engine control module. Refer to the relevant sections of the workshop manual and check the induction system for air leaks and obstructions to flow. Check the condition of the air filter and examine the induction pipes for debris which could disrupt air flow at the sensing element ■ Refer to the electrical circuit diagrams and check mass air flow sensor for short circuit to ground, high resistance, open circuit. Repair wiring as required, Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the ‘Diagnosis Menu’ tab and retest ■ If the DTC resets suspect the mass air flow sensor. Check and install a new mass air flow sensor as required
P0101-22	Mass or Volume Air Flow A Circuit Range /Performance - Signal Amplitude > Maximum	**NOTE:** Circuit diagram component name maf/iat sensor ■ The engine control module measured a signal voltage above a specified range but not necessarily a short circuit to power, gain too high ■ Airflow disruption at sensing element of mass air flow sensor ■ Harness fault - Mass air flow sensor circuit short circuit to power ■ Mass air flow sensor failure	■ This DTC is set if the mass air flow signal from sensor 1 is less than the value expected by the engine control module. Refer to the relevant sections of the workshop manual and check the induction system for air leaks and obstructions to flow. Check the condition of the air filter and examine the induction pipes for debris which could disrupt air flow at the sensing element ■ Refer to the electrical circuit diagrams and check mass air flow sensor for short circuit to power. Repair wiring as required, Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the ‘Diagnosis Menu’ tab and retest ■ If the DTC resets suspect the mass air flow sensor. Check and install a new mass air flow sensor as required

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P0101-92	Mass or Volume Air Flow Sensor "A" Circuit Range /Performance - Performance or incorrect operation	■ The engine control module has detected that the component performance is outside its expected range or operating in an incorrect way ■ Airflow disruption at sensing element of mass air flow sensor ■ Harness fault - Mass air flow sensor circuit short circuit to ground, short circuit to power, open circuit, high resistance ■ Mass air flow sensor failure	■ This DTC is set if the mass air flow signal from sensor 1 is less than the value expected by the engine control module. Refer to the relevant sections of the workshop manual and check the induction system for air leaks and obstructions to flow. Check the condition of the air filter and examine the induction pipes for debris which could disrupt air flow at the sensing element ■ Refer to the electrical circuit diagrams and check mass air flow sensor for short circuit to ground, short circuit to power, open circuit, high resistance. Repair wiring as required, Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ If the DTC resets suspect the mass air flow sensor. Check and install a new mass air flow sensor as required
P0102-00	Mass or Volume Air Flow A Circuit Low - No sub type information	**NOTES:** ■ Circuit reference - MAFS_B ■ Circuit diagram component name maf/iat sensor ■ Airflow disruption at sensing element of mass air flow sensor ■ Harness fault - Mass air flow sensor circuits ■ Mass air flow sensor failure	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, Air Flow Rate From mass air flow Sensor Bank 1 (0x0504). This DTC is set if the mass air flow signal from sensor 1 is less than the value expected by the engine control module. Refer to the relevant sections of the workshop manual and check the induction system for air leaks and obstructions to flow. Check the condition of the air filter and examine the induction pipes for debris which could disrupt air flow at the sensing element ■ Refer to the electrical circuit diagrams and check the power and ground circuits for the mass air flow sensors for high resistance, short circuits to power or ground, check the mass air flow signal line between the engine control module and the mass air flow sensor for high resistance and intermittent faults. Repair wiring as required, Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ If the DTC resets suspect the mass air flow sensor

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P0103-00	Mass or Volume Air Flow A Circuit High - No sub type information	**NOTES:** ■ Circuit reference - MAFS_B ■ Circuit diagram component name maf/iat sensor ■ Airflow disruption at sensing element of mass air flow sensor ■ Harness fault - Mass air flow sensor circuits ■ Mass air flow sensor failure	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, Air Flow Rate From Mass Air Flow Sensor Bank 1 (0x0504). This DTC is set if the mass air flow signal from sensor 1 is greater than the value expected by the engine control module. Refer to the relevant sections of the workshop manual and check the induction system for air leaks and obstructions to flow. Check the condition of the air filter and examine the induction pipes for debris which could disrupt air flow at the sensing element. Refer to the electrical circuit diagrams and check the power and ground circuits for the mass air flow sensors for high resistance, short circuits to power or ground, check the mass air flow signal line between the engine control module and the mass air flow sensor for high resistance and intermittent faults. Repair wiring as required. If the DTC resets suspect the mass air flow sensor ■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, Air Flow Rate From Mass Air Flow Sensor Bank 1 (0x0504). This DTC is set if the mass air flow signal from sensor 1 is greater than the value expected by the engine control module. Refer to the relevant sections of the workshop manual and check the induction system for air leaks and obstructions to flow. Check the condition of the air filter and examine the induction pipes for debris which could disrupt air flow at the sensing element ■ Refer to the electrical circuit diagrams and check the power and ground circuits for the mass air flow sensors for high resistance, short circuits to power or ground, check the mass air flow signal line between the engine control module and the mass air flow sensor for high resistance and intermittent faults. Repair wiring as required, Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the ‘Diagnosis Menu’ tab and retest ■ If the DTC resets suspect the mass air flow sensor

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P0105-16	Manifold Absolute Pressure /BARO circuit - Circuit voltage below threshold	**NOTE:** Circuit reference - MAP ■ The engine control module measured a voltage below a specified range but not necessarily a short circuit to ground ■ Harness fault - Manifold absolute pressure sensor circuits ■ Manifold absolute pressure sensor failure ■ Blockage or leak between the intake manifold and the manifold absolute pressure sensor	■ Refer to the electrical circuit diagrams and check the 5 volt supply circuit for open circuits, high resistance, short circuit to ground. Check the sensor ground for open circuit, short circuit to power. Check the signal circuit for short circuit to ground, high resistance. Repair wiring as required, Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ If the DTC resets and there are no harness faults suspect the manifold absolute pressure sensor ■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, Corrected Intake Manifold Absolute Pressure (0x0322), Manifold Absolute Pressure Sensor Voltage (0x0301), Manifold Absolute Pressure Bank 1 (0x052C). This DTC is set when the voltage on the manifold absolute pressure sensor signal circuit is less than the threshold expected by the engine control module. This sensor is a pressure transducer with a 5 volt sensor supply, a sensor ground and a signal circuit. Refer to the workshop manual and check the manifold absolute pressure sensor is correctly connected to the air intake manifold and there are no blockages or air leaks preventing communication of pressure changes between the manifold and the sensor. Check for DTCs associated with the throttle position sensor which has a common power supply
P0105-17	Manifold Absolute Pressure /BARO circuit - Circuit voltage above threshold	**NOTE:** Circuit reference - MAP ■ The engine control module measured a voltage above a specified range but not necessarily a short circuit to power ■ Harness fault - Manifold absolute pressure sensor circuits ■ Manifold absolute pressure sensor failure ■ Blockage or leak between the intake manifold and the manifold pressure sensor	■ Refer to the electrical circuit diagrams and check the 5 volt supply circuit for short circuit to power. Check the sensor ground for open circuit, short circuit to power. Check the signal circuit for short circuit to power. Repair wiring as required, Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ If the DTC resets and there are no harness faults suspect the manifold absolute pressure sensor ■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, Corrected Intake Manifold Absolute Pressure (0x0504), Manifold Absolute Pressure Sensor Voltage (0x0301), Manifold Absolute Pressure Bank 1 (0x052C). This DTC is set when the voltage on the manifold absolute pressure sensor signal circuit is greater than the threshold expected by the engine control module. This sensor is a pressure transducer with a 5 volt sensor supply, a sensor ground and a signal circuit. The sensing element is connected to intake manifold pressure downstream of the throttle plate. Refer to the workshop manual and check the manifold absolute pressure sensor is correctly connected to the air intake manifold and there are no blockages or air leaks preventing communication of pressure changes between the manifold and the sensor. Check for DTCs associated with the throttle position sensor which has a common power supply

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P0105-65	Manifold Absolute Pressure /Barometric Pressure Sensor Circuit - Signal has too few transitions /events	**NOTE:** Circuit reference - MAP ■ The engine control module monitored a parameter over time within specified limits and detected fewer than the expected number of transitions ■ Harness fault - Manifold absolute pressure sensor circuits ■ Manifold absolute pressure sensor failure ■ Blockage or leak between the intake manifold and the manifold pressure sensor	■ Refer to the electrical circuit diagrams and check the 5 volt supply circuit for short circuit to power. Check the sensor ground for open circuit, short circuit to power. Check the signal circuit for short circuit to power. Repair wiring as required, Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the ‘Diagnosis Menu’ tab and retest ■ If the DTC resets and there are no harness faults suspect the manifold absolute pressure sensor ■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, Corrected Intake Manifold Absolute Pressure (0x0504), Manifold Absolute Pressure Sensor Voltage (0x0301), Manifold Absolute Pressure Bank 1 (0x052C). This DTC is set when the voltage on the manifold absolute pressure sensor signal circuit is greater than the threshold expected by the engine control module. This sensor is a pressure transducer with a 5 volt sensor supply, a sensor ground and a signal circuit. The sensing element is connected to Intake Manifold Pressure downstream of the throttle plate. Refer to the workshop manual and check the manifold absolute pressure sensor is correctly connected to the air intake manifold and there are no blockages or air leaks preventing communication of pressure changes between the manifold and the sensor. Check for DTCs associated with the throttle position sensor which has a common power supply
P0107-00	Manifold Absolute Pressure /Barometric Pressure Sensor Circuit Low - No sub type information	**NOTE:** Circuit reference - MAP ■ Harness fault - Manifold absolute pressure sensor circuits ■ Manifold absolute pressure sensor failure ■ Blockage or leak between the intake manifold and the manifold pressure sensor	■ Refer to the electrical circuit diagrams and check the 5 volt supply circuit for short circuit to power. Check the sensor ground for open circuit, short circuit to power. Check the signal circuit for short circuit to power. Repair wiring as required, Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the ‘Diagnosis Menu’ tab and retest ■ If the DTC resets and there are no harness faults suspect the manifold absolute pressure sensor ■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, Corrected Intake Manifold Absolute Pressure (0x0504), Manifold Absolute Pressure Sensor Voltage (0x0301), Manifold Absolute Pressure Bank 1 (0x052C). This DTC is set when the voltage on the manifold absolute pressure sensor signal circuit is greater than the threshold expected by the engine control module. This sensor is a pressure transducer with a 5 volt sensor supply, a sensor ground and a signal circuit. The sensing element is connected to Intake Manifold Pressure downstream of the throttle plate. Refer to the workshop manual and check the manifold absolute pressure sensor is correctly connected to the air intake manifold and there are no blockages or air leaks preventing communication of pressure changes between the manifold and the sensor. Check for DTCs associated with the throttle position sensor which has a common power supply

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P0107-16	Manifold Absolute Pressure /Barometric Pressure Sensor Circuit Low - Circuit voltage below threshold	**NOTE:** Circuit reference - MAP ■ The engine control module measured a voltage below a specified range but not necessarily a short circuit to ground ■ Harness fault - Manifold absolute pressure sensor circuits ■ Manifold absolute pressure sensor failure ■ Blockage or leak between the intake manifold and the manifold pressure sensor	■ Refer to the electrical circuit diagrams and check the 5 volt supply circuit for open circuit, short circuit to power, short circuit to ground. Check the sensor ground for open circuit, short circuit to power. Check the signal circuit for open circuit, short circuit to power, short circuit to ground. Repair wiring as required, Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the ‘Diagnosis Menu’ tab and retest ■ If the DTC resets and there are no harness faults suspect the manifold absolute pressure sensor ■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, Corrected Intake Manifold Absolute Pressure (0x0504), Manifold Absolute Pressure Sensor Voltage (0x0301), Manifold Absolute Pressure Bank 1 (0x052C). This DTC is set when the manifold absolute pressure sensor signal voltage is lower than expected by the engine control module. This sensor is a pressure transducer with a 5 volt sensor supply, a sensor ground and a signal circuit. The sensing element is connected to intake manifold pressure downstream of the throttle plate. Refer to the workshop manual and check the manifold absolute pressure sensor is correctly connected to the air intake manifold and there are no blockages or air leaks preventing communication of pressure changes between the manifold and the sensor
P0108-00	Manifold Absolute Pressure /Barometric Pressure Sensor Circuit High - No sub type information	**NOTE:** Circuit reference - MAP ■ Harness fault - Manifold absolute pressure sensor circuits ■ Manifold absolute pressure sensor failure ■ Blockage or leak between the intake manifold and the manifold pressure sensor	■ Refer to the electrical circuit diagrams and check the 5 volt supply circuit for open circuit, short circuit to power, short circuit to ground. Check the sensor ground for open circuit, short circuit to power. Check the signal circuit for open circuit, short circuit to power, short circuit to ground. Repair wiring as required, Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the ‘Diagnosis Menu’ tab and retest ■ If the DTC resets and there are no harness faults suspect the manifold absolute pressure sensor ■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, Corrected Intake Manifold Absolute Pressure (0x0504), Manifold Absolute Pressure Sensor Voltage (0x0301), Manifold Absolute Pressure Bank 1 (0x052C). This DTC is set when the manifold absolute pressure sensor signal voltage is greater than expected by the engine control module. This sensor is a pressure transducer with a 5 volt sensor supply, a sensor ground and a signal circuit. The sensing element is connected to Intake Manifold Pressure downstream of the throttle plate. Refer to the workshop manual and check the manifold absolute pressure sensor is corrected connected to the air intake manifold and there are no blockages or air leaks preventing communication of pressure changes between the manifold and the sensor

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P0108-17	Manifold Absolute Pressure /Barometric Pressure Sensor Circuit High - Circuit voltage above threshold	**NOTE:** Circuit reference - MAP ■ The engine control module measured a voltage above a specified range but not necessarily a short circuit to power ■ Harness fault - Manifold absolute pressure sensor circuits ■ Manifold absolute pressure sensor failure ■ Blockage or leak between the intake manifold and the manifold pressure sensor	■ Refer to the electrical circuit diagrams and check the 5 volt supply circuit for open circuit, short circuit to power, short circuit to ground. Check the sensor ground for open circuit, short circuit to power. Check the signal circuit for open circuit, short circuit to power, short circuit to ground. Repair wiring as required, Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the ‘Diagnosis Menu’ tab and retest ■ If the DTC resets and there are no harness faults suspect the manifold absolute pressure sensor ■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, Corrected Intake Manifold Absolute Pressure (0x0504), Manifold Absolute Pressure Sensor Voltage (0x0301), Manifold Absolute Pressure Bank 1 (0x052C). This DTC is set when the manifold absolute pressure sensor signal voltage is greater than expected by the engine control module. This sensor is a pressure transducer with a 5 volt sensor supply, a sensor ground and a signal circuit. The sensing element is connected to intake manifold pressure downstream of the throttle plate. Refer to the workshop manual and check the manifold absolute pressure sensor is corrected connected to the air intake manifold and there are no blockages or air leaks preventing communication of pressure changes between the manifold and the sensor
P010A-92	Mass or Volume Air Flow Sensor "B" Circuit - Performance or incorrect operation	**NOTE:** Circuit diagram component name maf/iat sensor ■ The engine control module has detected that the component performance is outside its expected range or operating in an incorrect way ■ Airflow disruption at sensing element of mass air flow ■ Harness fault - Mass air flow sensor circuit short circuit to ground, short circuit to power, open circuit, high resistance ■ Mass air flow failure	■ This DTC is set if the mass air flow signal from sensor 2 is greater than the value expected by the engine control module. Refer to the relevant sections of the workshop manual and check the induction system for air leaks and obstructions to flow. Check the condition of the air filter and examine the induction pipes for debris which could disrupt air flow at the sensing element ■ Refer to the electrical circuit diagrams and check mass air flow sensor 2 for short circuit to ground, short circuit to power, open circuit, high resistance. Repair wiring as required, Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the ‘Diagnosis Menu’ tab and retest ■ If the DTC resets suspect the mass air flow sensor. Check and install a new mass air flow sensor 2 as required

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P010B-21	Mass or Volume Air Flow B Circuit Range /Performance - Signal Amplitude < Minimum	**NOTE:** Circuit diagram component name maf/iat sensor ■ The engine control module measured a signal voltage below a specified range but not necessarily a short circuit to ground, gain low ■ Airflow disruption at sensing element of mass air flow ■ Harness fault - Mass air flow sensor circuit short circuit to ground, high resistance, open circuit ■ Mass air flow failure	■ This DTC is set if the mass air flow signal from sensor 2 is less than the value expected by the engine control module. Refer to the relevant sections of the workshop manual and check the induction system for air leaks and obstructions to flow. Check the condition of the air filter and examine the induction pipes for debris which could disrupt air flow at the sensing element ■ Refer to the electrical circuit diagrams and check mass air flow sensor 2 for short circuit to ground, high resistance, open circuit. Repair wiring as required, Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ If the DTC resets suspect the mass air flow sensor. Check and install a new mass air flow sensor 2 as required
P010B-22	Mass or Volume Air Flow B Circuit Range /Performance - Signal Amplitude > Maximum	**NOTE:** Circuit diagram component name maf/iat sensor ■ The engine control module measured a signal voltage above a specified range but not necessarily a short circuit to power, gain too high ■ Airflow disruption at sensing element of mass air flow sensor2 ■ Harness fault - Mass air flow sensor circuit short circuit to power ■ Mass air flow failure	■ This DTC is set if the mass air flow signal from sensor 2 is less than the value expected by the engine control module. Refer to the relevant sections of the workshop manual and check the induction system for air leaks and obstructions to flow. Check the condition of the air filter and examine the induction pipes for debris which could disrupt air flow at the sensing element ■ Refer to the electrical circuit diagrams and check mass air flow sensor 2 for short circuit to power. Repair wiring as required, Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ If the DTC resets suspect the mass air flow sensor. Check and install a new mass air flow sensor 2 as required
P010C-00	Mass or Volume Air Flow B Circuit Low - No sub type information	**NOTES:** ■ Circuit reference - MAFS_A ■ Circuit diagram component name maf/iat sensor ■ Airflow disruption at sensing element of mass air flow ■ Harness fault - Mass air flow sensor circuits ■ Mass air flow failure	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, Air Flow Rate From Mass Air Flow Sensor Bank 2 (0x0505). This DTC is set if the mass air flow signal from sensor 2 is less than the value expected by the engine control module. Refer to the relevant sections of the workshop manual and check the induction system for air leaks and obstructions to flow. Check the condition of the air filter and examine the induction pipes for debris which could disrupt air flow at the sensing element ■ Refer to the electrical circuit diagrams and check the power and ground circuits for the mass air flow sensors for high resistance, short circuits to power or ground, check the mass air flow signal line between the engine control module and the mass air flow sensor for high resistance and intermittent faults. Repair wiring as required, Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ If the DTC resets suspect the mass air flow sensor

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P010D-00	Mass or Volume Air Flow B Circuit High - No sub type information	**NOTES:** ■ Circuit reference - MAFS_A ■ Circuit diagram component name maf/iat sensor ■ Airflow disruption at sensing element of mass air flow ■ Harness fault - Mass air flow sensor circuits ■ Mass air flow failure	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, Air Flow Rate From Mass Air Flow Sensor Bank 2 (0x0505). This DTC is set if the mass air flow signal from sensor 2 is greater than the value expected by the engine control module. Refer to the relevant sections of the workshop manual and check the induction system for air leaks and obstructions to flow. Check the condition of the air filter and examine the induction pipes for debris which could disrupt air flow at the sensing element ■ Refer to the electrical circuit diagrams and check the power and ground circuits for the mass air flow sensors for high resistance, short circuits to power or ground, check the mass air flow signal line between the engine control module and the mass air flow sensor for high resistance and intermittent faults. Repair wiring as required, Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ If the DTC resets suspect the mass air flow sensor
P0116-00	Engine Coolant Temperature Sensor 1 Circuit Range /Performance - No sub type information	**NOTE:** Circuit reference - ECT ■ Engine coolant level or flow fault ■ Harness fault - Engine coolant temperature sensor circuits ■ Engine coolant temperature sensor failure	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, Engine Coolant Temperature Sensor (0x0357), Engine Coolant Temperature (0xF405). This DTC is set if the engine coolant temperature value fails plausibility checks by the engine control module. Refer to the workshop manual and check the engine cooling system to ensure the coolant condition and level is correct ■ Refer to the electrical circuit diagrams and check the engine coolant temperature sensor circuits for high resistance, short circuit to other circuits, intermittent faults. Repair wiring as required, Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ If the DTC resets suspect the engine coolant temperature sensor
P0116-16	Engine Coolant Temperature Sensor 1 Circuit Range /Performance - Circuit Voltage Below Threshold	**NOTE:** Circuit reference - ECT ■ The engine control module measured a voltage below a specified range but not necessarily a short circuit to ground ■ Engine coolant level or flow fault ■ Harness fault - Engine coolant temperature sensor circuits ■ Engine coolant temperature sensor failure	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, Engine Coolant Temperature Sensor (0x0357), Engine Coolant Temperature (0xF405). This DTC is set if the engine coolant temperature sensor signal voltage is less than the value expected by the engine control module. Refer to the workshop manual and check the engine cooling system to ensure the coolant condition and level is correct ■ Refer to the electrical circuit diagrams and check the engine coolant temperature sensor circuits for high resistance, short circuit to other circuits, intermittent faults. Repair wiring as required, Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ If the DTC resets suspect the engine coolant temperature sensor

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P0116-17	Engine Coolant Temperature Sensor 1 Circuit Range /Performance - Circuit Voltage Above Threshold	**NOTE:** Circuit reference - ECT ■ The engine control module measured a voltage above a specified range but not necessarily a short circuit to power ■ Engine coolant level or flow fault ■ Harness fault - Engine coolant temperature sensor circuits ■ Engine coolant temperature sensor failure	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, Engine Coolant Temperature Sensor (0x0357), Engine Coolant Temperature (0xF405). This DTC is set if the engine coolant temperature sensor signal voltage is greater than the value expected by the control module. Refer to the workshop manual and check the engine cooling system to ensure the coolant condition and level is correct ■ Refer to the electrical circuit diagrams and check the engine coolant temperature sensor circuits for high resistance, short circuit to other circuits, intermittent faults. Repair wiring as required, Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ If the DTC resets suspect the engine coolant temperature sensor
P0116-21	Engine Coolant Temperature Sensor 1 Circuit Range /Performance - Signal Amplitude < Minimum	■ The engine control module measured a signal voltage below a specified range but not necessarily a short circuit to ground, gain low ■ Engine coolant level or flow fault ■ Harness fault - Engine coolant temperature sensor circuit short circuit to ground, high resistance, open circuit ■ Engine coolant temperature sensor failure	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, Engine Coolant Temperature Sensor (0x0357), Engine Coolant Temperature (0xF405). This DTC is set if the engine coolant temperature sensor signal amplitude is lower than the value expected by the control module. Refer to the workshop manual and check the engine cooling system to ensure the coolant condition and level is correct ■ Refer to the electrical circuit diagrams and check the engine coolant temperature sensor for short circuit to ground, high resistance, open circuit. Repair wiring as required, Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ If the DTC resets suspect the engine coolant temperature sensor. Check and install a new engine coolant temperature sensor as required
P0116-22	Engine Coolant Temperature Sensor 1 Circuit Range /Performance - Signal Amplitude > Maximum	■ The engine control module measured a signal voltage above a specified range but not necessarily a short circuit to power, gain too high ■ Engine coolant level or flow fault ■ Harness fault - Engine coolant temperature sensor circuit short circuit to power ■ Engine coolant temperature sensor failure	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, Engine Coolant Temperature Sensor (0x0357), Engine Coolant Temperature (0xF405). This DTC is set if the engine coolant temperature sensor signal amplitude is greater than the value expected by the control module. Refer to the workshop manual and check the engine cooling system to ensure the coolant condition and level is correct ■ Refer to the electrical circuit diagrams and check the engine coolant temperature sensor circuit for short circuit to power. Repair wiring as required, Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ If the DTC resets suspect the engine coolant temperature sensor. Check and install a new engine coolant temperature sensor as required

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P0130-00	O2 Sensor Circuit (Bank 1 Sensor 1) - No sub type information	**NOTE:** Circuit reference - LPV_A LPPC_A ■ Harness fault - Pre-catalyst oxygen sensor circuit open circuit ■ Pre-catalyst oxygen sensor failure	■ Refer to the electrical circuit diagrams and check the pre-catalyst oxygen sensor circuits for open circuit. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ If no fault found in wiring harness suspect Pre-catalyst oxygen sensor
P0130-11	O2 Circuit (Bank 1, Sensor 1) - Circuit short to ground	**NOTE:** Circuit reference - LPV_A ■ The engine control module has detected a ground measurement for a period longer than expected or has detected a ground measurement when another value was expected ■ Harness fault - Pre-catalyst oxygen sensor circuit short circuit to ground ■ Pre-catalyst oxygen sensor failure	■ Refer to the electrical circuit diagrams and check the pre-catalyst oxygen sensor circuits for short circuit to ground. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ If no fault found in wiring harness suspect pre-catalyst oxygen sensor
P0130-12	O2 Circuit (Bank 1, Sensor 1) - Circuit short to battery	**NOTE:** Circuit reference - LPV_A ■ The engine control module has detected a vehicle power measurement for a period longer than expected or has detected a vehicle power measurement when another value was expected ■ Harness fault - Pre-catalyst oxygen sensor circuit short circuit to power ■ Pre-catalyst oxygen sensor failure	■ Refer to the electrical circuit diagrams and check the pre-catalyst oxygen sensor circuits for short circuit to power. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ If no fault found in wiring harness suspect pre-catalyst oxygen sensor
P0130-13	O2 Circuit (Bank 1, Sensor 1) - Circuit open	**NOTE:** Circuit reference - LPPC_A LPV_A ■ The engine control module has determined an open circuit via lack of bias voltage, low current flow, no change in the state of an input in response to an output ■ Harness fault - Pre-catalyst oxygen sensor circuit open circuit ■ Pre-catalyst oxygen sensor failure	■ Refer to the electrical circuit diagrams and check the pre-catalyst oxygen sensor circuits for open circuit. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ If no fault found in wiring harness suspect pre-catalyst oxygen sensor

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P0130-1A	O2 Circuit (Bank 1, Sensor 1) - Circuit Resistance Below Threshold	**NOTE:** Circuit reference - LPTR_A ■ Harness fault - Pre-catalyst oxygen sensor circuit fault ■ Pre-catalyst oxygen sensor failure	■ This DTC is set when the pre-catalyst oxygen sensor internal trim resistance value is less than that expected by the engine control module. Refer to the electrical circuit diagrams and check the pre-catalyst oxygen sensor circuits for short circuits. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ If no fault found in wiring harness suspect pre-catalyst oxygen sensor failure
P0130-1B	O2 Circuit (Bank 1, Sensor 1) - Circuit Resistance Above Threshold	**NOTE:** Circuit reference - LPTR_A ■ Harness fault - Pre-catalyst oxygen sensor circuit fault ■ Pre-catalyst oxygen sensor failure	■ This DTC is set when the oxygen sensor internal trim resistance value is greater than that expected by the engine control module. Refer to the electrical circuit diagrams and check the pre-catalyst oxygen sensor circuits for short circuits, open circuits. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ If no fault found in wiring harness suspect pre-catalyst oxygen sensor failure. refer to the new module /component installation note at the top of the DTC index
P0130-26	O2 Circuit (Bank 1, Sensor 1) - Signal Rate Of Change Below Threshold	■ The signal transitions more slowly than is reasonably allowed ■ Exhaust system leak ■ Fuel control system fault ■ Pre-catalyst oxygen sensor to engine control module circuit short circuit to ground, short circuit to power, high resistance ■ Pre-catalyst oxygen sensor failure	■ Check for and rectify any exhaust leak between cylinder head and catalytic converter. Check pre-catalyst oxygen sensor is correctly installed in exhaust manifold ■ Check fuel control system for related DTCs and refer to the relevant DTC index ■ Refer to the electrical circuit diagrams and check pre-catalyst oxygen sensor to engine control module circuit for short circuit to ground, short circuit to power, high resistance, open circuit ■ Check and install a new pre-catalyst oxygen sensor as required
P0133-00	O2 Circuit Slow Response (Bank 1, Sensor 1) - No sub type information	■ Exhaust system leak ■ Fuel control system fault ■ Pre-catalyst oxygen sensor to engine control module wiring shield high resistance ■ Pre-catalyst oxygen sensor failure	■ Check for and rectify any exhaust leak between cylinder head and catalytic converter. Check pre-catalyst oxygen sensor is correctly installed in exhaust manifold ■ Check fuel control system for related DTCs and refer to the relevant DTC index ■ Refer to the electrical circuit diagrams and check pre-catalyst oxygen sensor to engine control module wiring shield for high resistance ■ Check and install a new pre-catalyst oxygen sensor as required

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P0135-16	O2 Sensor Heater Circuit (Bank 1 Sensor 1) - Circuit voltage below threshold	**NOTE:** Circuit reference - LPPH_A ■ Pre-catalyst oxygen sensor to engine control module circuit short circuit to ground, open circuit ■ Pre-catalyst oxygen sensor failure	■ Check fuel control system for related DTCs and refer to the relevant DTC index ■ Refer to the electrical circuit diagrams and check pre-catalyst oxygen sensor to engine control module circuit for short circuit to ground, open circuit ■ Check and install a new pre-catalyst oxygen sensor as required
P0148-00	Fuel Delivery Error - No sub type information	■ This DTC is set after the engine control module internal monitoring function has evaluated high pressure fuel pump fatigue and wear against fuel rail pressure	■ Check high pressure fuel pump for mechanical damage and excessive wear ■ Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the ‘Diagnosis Menu’ tab and retest ■ Check and install a new high pressure fuel pump as required
P0181-16	Fuel Temperature Sensor A Circuit Range /Performance - Circuit Voltage Below Threshold	**NOTE:** Circuit reference - IFTS ■ The engine control module measured a voltage below a specified range but not necessarily a short circuit to ground ■ Harness fault - Fuel temperature sensor circuit fault ■ Sensor component fault	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, Fuel Temperature "A" (0x0522), Fuel Rail Temperature Sensor Voltage (0x033F). This DTC is set when the voltage on the fuel temperature sensor circuit is less than that expected by the engine control module. The fuel temperature sensor is a thermistor type sensor with a signal and ground circuit. Refer to the electrical circuit diagrams and check the fuel temperature sensor signal circuit for short circuit to ground. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the ‘Diagnosis Menu’ tab and retest ■ If no fault found in wiring harness suspect fuel temperature sensor failure
P0181-17	Fuel Temperature Sensor A Circuit Range /Performance - Circuit Voltage Above Threshold	**NOTE:** Circuit reference - IFTS ■ The engine control module measured a voltage above a specified range but not necessarily a short circuit to power ■ Harness fault - Fuel temperature sensor circuit fault ■ Sensor component fault	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, Fuel Temperature "A" (0x0522), Fuel Rail Temperature Sensor Voltage (0x033F). This DTC is set when the voltage on the fuel temperature sensor circuit is greater than that expected by the engine control module. The fuel temperature sensor is a thermistor type sensor with a signal and ground circuit. Refer to the electrical circuit diagrams and check the fuel temperature sensor signal and ground circuits for open circuit or high resistance. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the ‘Diagnosis Menu’ tab and retest ■ If no fault found in wiring harness suspect fuel temperature sensor failure

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P0182-00	Fuel Temperature Sensor A Circuit Low - No sub type information	**NOTE:** Circuit reference - IFTS ■ Harness fault - Fuel temperature sensor circuit fault ■ Sensor component fault	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, Fuel Temperature "A" (0x0522), Fuel Rail Temperature Sensor Voltage (0x033F). This DTC is set when the voltage on the fuel temperature sensor circuit is less than that expected by the engine control module. The fuel temperature sensor is a thermistor type sensor with a signal and ground circuit. Refer to the electrical circuit diagrams and check the fuel temperature sensor signal circuit for short circuit to ground. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ If no fault found in wiring harness suspect fuel temperature sensor failure
P0183-00	Fuel Temperature Sensor A Circuit High - No sub type information	**NOTE:** Circuit reference - IFTS ■ Harness fault - Fuel temperature sensor circuit fault ■ Sensor component fault	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, Fuel Temperature "A" (0x0522), Fuel Rail Temperature Sensor Voltage (0x033F). This DTC is set when the voltage on the fuel temperature sensor circuit is greater than that expected by the engine control module. The fuel temperature sensor is a thermistor type sensor with a signal and ground circuit. Refer to the electrical circuit diagrams and check the fuel temperature sensor signal and ground circuits for open circuit or high resistance. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ If no fault found in wiring harness suspect fuel temperature sensor failure
P0191-16	Fuel Rail Pressure Sensor A Circuit Range /Performance - Circuit voltage below threshold	**NOTE:** Circuit reference - RPS ■ The engine control module measured a voltage below a specified range but not necessarily a short circuit to ground ■ Fuel supply system fault ■ Harness fault - Fuel rail pressure sensor circuit fault ■ Sensor component fault	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, Fuel Rail Pressure Sensor (0x0324), Fuel Rail Pressure (0xF423). The fuel rail pressure sensor is a pressure transducer mounted on the fuel rail, it has three circuits: a 5volt supply, a sensor ground and the sensor output signal line. This DTC is set when the voltage on the signal line is less than that expected by the engine control module. Refer to the workshop manual and ensure that the fuel supply system is working correctly ■ Refer to the electrical circuit diagrams and check the sensor supply, signal and ground connections for intermittent faults, open circuits, short circuits, high resistance. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ If no fault found in wiring harness suspect fuel rail pressure sensor failure

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P0191-17	Fuel Rail Pressure Sensor A Circuit Range /Performance - Circuit voltage above threshold	**NOTE:** Circuit reference - RPS ■ The engine control module measured a voltage above a specified range but not necessarily a short circuit to power ■ Fuel supply system fault ■ Harness fault - Fuel rail pressure sensor circuit fault ■ Sensor component fault	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, Fuel Rail Pressure Sensor (0x0324), Fuel Rail Pressure (0xF423). The fuel rail pressure sensor is a pressure transducer mounted on the fuel rail, it has three circuits: a 5volt supply, a sensor ground and the sensor output signal line. This DTC is set when the voltage on the signal line is greater than that expected by the engine control module. Refer to the workshop manual and ensure that the fuel supply system is working correctly ■ Refer to the electrical circuit diagrams and check the sensor supply, signal and ground connections for intermittent faults, open circuits, short circuits, high resistance. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ If no fault found in wiring harness suspect fuel rail pressure sensor failure
P0192-16	Fuel Rail Pressure Sensor A Circuit Low - Circuit Voltage Below Threshold	**NOTE:** Circuit reference - RPS ■ The engine control module measured a voltage below a specified range but not necessarily a short circuit to ground ■ Fuel supply system fault ■ Harness fault - Fuel rail pressure sensor circuit fault ■ Sensor component fault	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, Fuel Rail Pressure Sensor (0x0324), Fuel Rail Pressure (0xF423). The fuel rail pressure sensor is a pressure transducer mounted on the fuel rail, it has three circuits: a 5volt supply, a sensor ground and the sensor output signal line. This DTC is set when the voltage on the signal line is less than that expected by the engine control module. Refer to the workshop manual and ensure that the fuel supply system is working correctly ■ Refer to the electrical circuit diagrams and check the sensor supply, signal and ground connections for intermittent faults, open circuits, short circuits, high resistance. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ If no fault found in wiring harness suspect fuel rail pressure sensor failure
P0193-17	Fuel Rail Pressure Sensor A Circuit High - Circuit Voltage Above Threshold	**NOTE:** Circuit reference - RPS ■ The engine control module measured a voltage above a specified range but not necessarily a short circuit to power ■ Fuel supply system fault ■ Harness fault - Fuel rail pressure sensor circuit fault ■ Sensor component fault	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, Fuel Rail Pressure Sensor (0x0324), Fuel Rail Pressure (0xF423). The fuel rail pressure sensor is a pressure transducer mounted on the fuel rail, it has three circuits: a 5volt supply, a sensor ground and the sensor output signal line. This DTC is set when the voltage on the signal line is greater than that expected by the engine control module. Refer to the workshop manual and ensure that the fuel supply system is working correctly ■ Refer to the electrical circuit diagrams and check the sensor supply, signal and ground connections for intermittent faults, open circuits, short circuits, high resistance. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ If no fault found in wiring harness suspect fuel rail pressure sensor failure

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P0194-00	Fuel Rail Pressure Sensor A Circuit Intermittent /Erratic - No sub type information	■ Fuel supply system fault ■ Harness fault - Fuel rail pressure sensor circuit fault ■ Sensor component fault	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, Fuel Rail Pressure Sensor (0x0324), Fuel Rail Pressure (0xF423). The fuel rail pressure sensor is a pressure transducer mounted on the fuel rail, it has three circuits: a 5volt supply, a sensor ground and the sensor output signal line. Refer to the workshop manual and ensure that the fuel supply system is working correctly ■ Refer to the electrical circuit diagrams and check the sensor supply, signal and ground connections for intermittent faults, open circuits, short circuits, high resistance. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ If no fault found in wiring harness suspect fuel rail pressure sensor failure
P0195-00	Engine Oil Temperature Sensor Circuit - No sub type information	**NOTE:** Circuit reference - OTL ■ Oil contaminated or level incorrect ■ Harness fault - Oil temperature sensor circuits ■ Oil temperature sensor failure	■ Check the oil level is correct and the oil does not appear contaminated. Renew or top up oil as required ■ The oil temperature sensor has three circuits, a supply voltage, a sensor ground and a signal line. Refer to the electrical circuit diagrams and check the sensor voltage and ground supplies for open circuits or short circuit to ground. Check the signal line for open circuit, short circuit to power or ground, high resistance and intermittent connections. Repair the wiring harness as required ■ If no fault found in wiring harness suspect engine oil temperature sensor failure
P0195-23	Engine Oil Temperature Sensor Circuit - Signal Stuck Low	**NOTE:** Circuit reference - OTL ■ The engine control module measures a signal that remains low when transitions are expected ■ Oil contaminated or level incorrect ■ Harness fault - Oil temperature sensor circuits ■ Oil temperature sensor failure	■ Check the oil level is correct and the oil does not appear contaminated. Renew or top up oil as required ■ The oil temperature sensor has three circuits, a supply voltage, a sensor ground and a signal line. Refer to the electrical circuit diagrams and check the sensor voltage and ground supplies for open circuits or short circuit to ground. Check the signal line for open circuit, short circuit to power or ground, high resistance and intermittent connections. Repair the wiring harness as required ■ If no fault found in wiring harness suspect engine oil temperature sensor failure

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P0195-62	Engine Oil Temperature Sensor Circuit - Signal Compare Failure	■ The engine control module detected failure when comparing two or more input parameters for plausibility ■ Oil contaminated or level incorrect ■ Harness fault - Oil temperature sensor circuit short circuit to ground, short circuit to power, high resistance, open circuit, disconnected ■ Oil temperature sensor failure	■ Check the oil does not appear contaminated and the level is correct. Renew or top up oil as required ■ Refer to the electrical circuit diagrams and check oil temperature sensor signal circuit for short circuit to ground, short circuit to power, high resistance, open circuit, disconnected ■ Start the engine from cold and allow to idle, check and record Sump Oil Temperature - Measured (0x03F3) datalogger signal. Continue to warm up at idle, after approximately 10 minutes check and record Sump Oil Temperature - Measured (0x03F3) signal. If value of signal has not increased by 5°C suspect oil temperature sensor failure. Check and install a new oil temperature sensor as required
P0201-00	Cylinder 1 Injector Circuit /Open - No sub type information	■ Harness fault - Cylinder 1 injector circuit open circuit ■ Cylinder 1 injector failure	■ This DTC is set when the engine control module detects open circuit on the cylinder 1 injector control circuit. Refer to the electrical circuit diagrams and check the two control circuits between the engine control module and the fuel injector for high resistance, open circuits or intermittent connections. Repair the wiring harness as required ■ If no fault found in wiring harness suspect the fuel injector, refer to the relevant section of the workshop manual and check the internal resistance of the fuel injector
P0202-00	Cylinder 2 Injector Circuit /Open - No sub type information	■ Harness fault - Cylinder 2 injector circuit open circuit ■ Cylinder 2 injector failure	■ This DTC is set when the engine control module detects open circuit on the cylinder 2 injector control circuit. Refer to the electrical circuit diagrams and check the two control circuits between the engine control module and the fuel injector for high resistance, open circuits or intermittent connections. Repair the wiring harness as required ■ If no fault found in wiring harness suspect the fuel injector, refer to the relevant section of the workshop manual and check the internal resistance of the fuel injector
P0203-00	Cylinder 3 Injector Circuit /Open - No sub type information	■ Harness fault - Cylinder 3 injector circuit open circuit ■ Cylinder 3 injector failure	■ This DTC is set when the engine control module detects open circuit on the cylinder 3 injector control circuit. Refer to the electrical circuit diagrams and check the two control circuits between the engine control module and the fuel injector for high resistance, open circuits or intermittent connections. Repair the wiring harness as required ■ If no fault found in wiring harness suspect the fuel injector, refer to the relevant section of the workshop manual and check the internal resistance of the fuel injector

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P0204-00	Cylinder 4 Injector Circuit /Open - No sub type information	■ Harness fault - Cylinder 4 injector circuit open circuit ■ Cylinder 4 injector failure	■ This DTC is set when the engine control module detects open circuit on the cylinder 4 injector control circuit. Refer to the electrical circuit diagrams and check the two control circuits between the engine control module and the fuel injector for high resistance, open circuits or intermittent connections. Repair the wiring harness as required ■ If no fault found in wiring harness suspect the fuel injector, refer to the relevant section of the workshop manual and check the internal resistance of the fuel injector
P0205-00	Cylinder 5 Injector Circuit /Open - No sub type information	■ Harness fault - Cylinder 5 injector circuit open circuit ■ Cylinder 5 injector failure	■ This DTC is set when the engine control module detects open circuit on the cylinder 5 injector control circuit. Refer to the electrical circuit diagrams and check the two control circuits between the engine control module and the fuel injector for high resistance, open circuits or intermittent connections. Repair the wiring harness as required ■ If no fault found in wiring harness suspect the fuel injector, refer to the relevant section of the workshop manual and check the internal resistance of the fuel injector
P0206-00	Cylinder 6 Injector Circuit /Open - No sub type information	■ Harness fault - Cylinder 6 injector circuit open circuit ■ Cylinder 6 injector failure	■ This DTC is set when the engine control module detects open circuit on the cylinder 6 injector control circuit. Refer to the electrical circuit diagrams and check the two control circuits between the engine control module and the fuel injector for high resistance, open circuits or intermittent connections. Repair the wiring harness as required ■ If no fault found in wiring harness suspect the fuel injector, refer to the relevant section of the workshop manual and check the internal resistance of the fuel injector
P0216-00	Injector /Injection timing Control Circuit - No sub type information	■ Internal engine control module power supply is unable to supply the fuel injectors with the maximum number of injections required ■ Internal engine control module monitoring has detected a fuel pressure not able to meet the demand for the number of fuel injections ■ At high engine speeds the internal engine control module monitoring has detected that the computing time available for the desired number of injections is not sufficient	■ Refer to the battery care requirements, section 414-00 and verify that the vehicle battery is fully charged and serviceable before continuing with further diagnostic tests ■ Check the vehicle charging system performance to ensure the voltage regulation is correct ■ Refer to the electrical circuit diagrams and check engine control module power and ground circuits ■ Check fuel control system for related DTCs and refer to the relevant DTC index ■ Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the ‘Diagnosis Menu’ tab and retest

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P0219-00	Engine Overspeed Condition - No sub type information	■ Camshaft or Crankshaft position sensor circuit short circuit to ground, short circuit to power, open circuit ■ Camshaft or crankshaft position sensor failure	■ Refer to the electrical circuit diagrams and check camshaft and crankshaft position sensor circuits for short circuit to ground, short circuit to power, open circuit ■ Check for engine oil ingestion to sensors. Check and install a new camshaft and crankshaft position sensor as required
P0235-16	Turbocharger /Supercharger Boost Sensor A Circuit - Circuit Voltage Below Threshold	**NOTE:** Circuit reference - SCOP_SENSOR ■ The engine control module measured a voltage below a specified range but not necessarily a short circuit to ground ■ Mechanical fault - Sensor hose blocked or leaking ■ Fault affecting intake air circuit or boost air circuit control valves or actuators ■ Harness fault - Boost air pressure sensor circuit ■ Boost air pressure sensor failure	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, Turbocharger /Supercharger Boost Sensor A Circuit (0x033C), Boost Absolute Pressure - Raw Value (0x033E). This DTC is set when the engine control module detects a signal voltage from the boost air pressure sensor signal line which is less than the threshold value. Check the sensor hose for blockages or leaks ■ Check the intake air and boost air circuits for faults including leaks, blockages, control valve actuator malfunctions ■ Check the sensor and harness for mechanical damage caused by heat or chaffing. Check for DTCs relating to faults on the Accelerator Pedal Position sensor as these sensors share power supply and ground connections. The boost air pressure sensor has three circuits, a 5 volt supply, a sensor ground and an analogue voltage output signal line. Refer to the electrical circuit diagrams and check the sensor voltage and ground supplies for open circuits or short circuit to ground. Check the signal line for open circuit, short circuit to ground, high resistance and intermittent connections. Repair the wiring harness as required ■ If no fault found in wiring harness suspect boost air pressure sensor failure

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P0235-17	Turbocharger /Supercharger Boost Sensor A Circuit - Circuit Voltage Above Threshold	**NOTE:** Circuit reference - SCOP_SENSOR ■ The engine control module measured a voltage above a specified range but not necessarily a short circuit to power ■ Mechanical fault - Sensor hose blocked or leaking ■ Fault affecting intake air circuit or boost air circuit control valves or actuators ■ Harness fault - Boost air pressure sensor circuit ■ Boost air pressure sensor failure	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, Turbocharger /Supercharger Boost Sensor A Circuit (0x033C), Boost Absolute Pressure - Raw Value (0x033E). This DTC is set when the engine control module detects a signal voltage from the boost air pressure sensor signal line which is greater than the threshold value. Check the sensor hose for blockages or leaks ■ Check the intake air and boost air circuits for faults including leaks, blockages, control valve actuator malfunctions ■ Check the sensor and harness for mechanical damage caused by heat or chaffing. Check for DTCs relating to faults on the Accelerator Pedal Position sensor as these sensors share power supply and ground connections. The boost air pressure sensor has three circuits, a 5 volts supply, a sensor ground and an analogue voltage output signal line. Refer to the electrical circuit diagrams and check the sensor voltage and ground supplies for open circuits or short circuit to ground. Check the signal line for open circuit, short circuit to power. Repair the wiring harness as required ■ If no fault found in wiring harness suspect boost air pressure sensor failure
P0235-94	Turbocharger /Supercharger Boost Sensor A Circuit - Unexpected operation	■ The engine control module has detected that the component is operating in a way or at a time that it has not been commanded to operate ■ Charge air shut-off valve is stuck open ■ Turbine intake shut-off valve	■ If this DTC is logged with P00BD-07 suspect, boost air solenoid stuck open mono turbo mode ■ If this DTC is logged with P00BD-07 suspect, turbine intake solenoid leakage when closed ■ If this DTC is logged with P00BD-07, P22D2-77, P1247-00 & P22CF-71 suspect, turbine intake solenoid stuck open ■ Check the vacuum system, Charge air shut-off valve and Turbine intake shut-off valve operation. **Refer to section 303-04B or 303-04D and perform pinpoint test A Vacuum Control System Tests** ■ If this DTC is logged with P00BD-07, P22D2-77, P1247-00 & P22CF-71 suspect, intake air system, blocked low pressure air intake ■ Using the Jaguar Land Rover Approved Diagnostic Equipment, perform the (Turbo, EGR and air path dynamic test) routine
P023D-00	Manifold Absolute Pressure-Turbocharger /Supercharger Boost Sensor A Correlation - No sub type information	■ Induction system air leak or blockage ■ Boost air system leak or blockage ■ Manifold absolute pressure sensor A failure ■ Variable geometry turbocharger actuator A sticking, failure ■ Turbocharger A failure	■ Check induction system for leaks, blockages ■ Check boost air system for leaks, blockages. Check for related DTCs and refer to the relevant DTC index ■ Check and install a new manifold absolute pressure sensor as required ■ Check and install a new variable geometry turbocharger actuator as required ■ Check turbocharger rod connection and oil seals

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P0251-13	Injection Pump Fuel Metering Control A - Circuit open	**NOTE:** Circuit reference - MEU ■ The engine control module has determined an open circuit via lack of bias voltage, low current flow, no change in the state of an input in response to an output ■ Harness fault - Fuel volume control valve circuit open circuit ■ Fuel volume control valve failure	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, Fuel Volume Control Valve Duty Cycle (0x03C2), Fuel Volume Control Valve Current - Measured (0x03EA). Refer to the electrical circuit diagrams and check the fuel volume control valve circuit between the engine control module and the fuel volume control valve for open circuit. Check power supply to fuel volume control valve. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ If no fault found in wiring harness suspect fuel volume control valve
P0251-4B	Injection Pump Fuel Metering Control A - Over temperature	■ Harness fault - Fuel volume control valve circuit short circuit to ground, short circuit to power, high resistance ■ Fuel volume control valve failure	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, Fuel Volume Control Valve Duty Cycle (0x03C2), Fuel Volume Control Valve Current - Measured (0x03EA). Refer to the electrical circuit diagrams and check the fuel volume control valve circuit between the engine control module and the fuel volume control valve for short circuit to ground, short circuit to power, high resistance. Check power supply to fuel volume control valve. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ If no fault found in wiring harness suspect fuel volume control valve
P0252-16	Injection Pump Fuel Metering Control A Range /Performance - Circuit Voltage Below Threshold	**NOTE:** Circuit reference - MEU ■ The engine control module measured a voltage below a specified range but not necessarily a short circuit to ground ■ Harness fault - Fuel volume control valve circuit ■ Fuel volume control valve failure	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, Fuel Volume Control Valve Duty Cycle (0x03C2), Fuel Volume Control Valve Current - Measured (0x03EA). This DTC is set when the voltage on the signal circuit to the fuel volume control valve is less than that expected by the engine control module. Refer to the electrical circuit diagrams and check the fuel volume control valve circuit between the engine control module and the fuel volume control valve for an intermittent open circuit, high resistance, or short circuit to ground. Check the power supply to fuel volume control valve. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ If no fault found in wiring harness suspect fuel volume control valve

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P0252-17	Injection Pump Fuel Metering Control A Range /Performance - Circuit Voltage Above Threshold	**NOTE:** Circuit reference - MEU ■ The engine control module measured a voltage above a specified range but not necessarily a short circuit to power ■ Harness fault - Fuel volume control valve circuit ■ Fuel volume control valve failure	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, Fuel Volume Control Valve Duty Cycle (0x03C2), Fuel Volume Control Valve Current - Measured (0x03EA). This DTC is set when the voltage on the signal circuit to the fuel volume control valve is greater than that expected by the engine control module. Refer to the electrical circuit diagrams and check the fuel volume control valve circuit between the engine control module and the volume control valve for a short circuit to power. Check the power supply to fuel volume control valve. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ If no fault found in wiring harness suspect fuel volume control valve
P0253-00	Injection Pump Fuel Metering Control A Low - No sub type information	**NOTE:** Circuit reference - MEU ■ Harness fault - Fuel volume control valve circuit short circuit to ground, open circuit ■ Fuel volume control valve failure	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, Fuel Volume Control Valve Duty Cycle (0x03C2), Fuel Volume Control Valve Current - Measured (0x03EA). This DTC is set when the voltage on the signal circuit to the fuel volume control valve is greater than that expected by the engine control module. Refer to the electrical circuit diagrams and check the fuel volume control valve circuit between the engine control module and the fuel volume control valve for a short circuit to ground, open circuit. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ If no fault found in wiring harness suspect fuel volume control valve
P0254-00	Injection Pump Fuel Metering Control A High - No sub type information	**NOTE:** Circuit reference - MEU ■ Harness fault - Fuel volume control valve circuit short circuit to power ■ Fuel volume control valve failure	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, Fuel Volume Control Valve Duty Cycle (0x03C2), Fuel Volume Control Valve Current - Measured (0x03EA). This DTC is set when the voltage on the signal circuit to the fuel volume control valve is greater than that expected by the engine control module. Refer to the electrical circuit diagrams and check the fuel volume control valve circuit between the engine control module and the fuel volume control valve for a short circuit to power. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ If no fault found in wiring harness suspect fuel volume control valve

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P0255-00	Injection Pump Fuel Metering Control A Intermittent - No sub type information	■ Harness fault - Fuel volume control valve circuit intermittent short circuit to ground, short circuit to power, high resistance ■ Fuel volume control valve intermittent failure	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, Fuel Volume Control Valve Duty Cycle (0x03C2), Fuel Volume Control Valve Current - Measured (0x03EA). Refer to the electrical circuit diagrams and check the fuel volume control valve circuit between the engine control module and the fuel volume control valve for an intermittent short circuit to ground, short circuit to power, high resistance. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ If no fault found in wiring harness suspect fuel volume control valve
P0261-00	Cylinder 1 Injector Circuit Low - No sub type information	■ Harness fault - Injector control circuit short circuit ■ Injector failure	■ Refer to the electrical circuit diagrams and check the injector control circuit between the engine control module and the cylinder 1 injector for short circuit to ground or short between the two wires. This circuit is a twisted pair, check both hi and low sides for short circuit to power. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ If no fault found in wiring harness suspect fuel injector
P0261-11	Cylinder 1 Injector Circuit Low - Circuit short to ground	■ The engine control module has detected a ground measurement for a period longer than expected or has detected a ground measurement when another value was expected ■ Harness fault - Injector control circuit short circuit to ground	■ Refer to the electrical circuit diagrams and check the injector control circuit between the engine control module and the cylinder 1 injector for short circuit to ground or short between the two wires. This circuit is a twisted pair, check both hi and low sides for short circuit to ground. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ If no fault found in wiring harness suspect fuel injector
P0261-23	Cylinder 1 Injector Circuit Low - Signal Stuck Low	■ The engine control module measures a signal that remains low when transitions are expected ■ Harness fault - Short circuit between injector control circuits on different cylinders	■ Check injector/engine wiring harness for damage due to chaffing or heat. Refer to the electrical circuit diagrams and check the injector control circuits between the engine control module and the cylinder 1 injector for short to other injector control circuits. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest
P0264-00	Cylinder 2 Injector Circuit Low - No sub type information	■ Harness fault - Injector control circuit short circuit ■ Injector failure	■ Refer to the electrical circuit diagrams and check the injector control circuit between the engine control module and the cylinder 2 injector for short circuit to ground or short between the two wires. This circuit is a twisted pair, check both hi and low sides for short circuit to power. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ If no fault found in wiring harness suspect fuel injector

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P0264-11	Cylinder 2 Injector Circuit Low - Circuit short To Ground	■ The engine control module has detected a ground measurement for a period longer than expected or has detected a ground measurement when another value was expected ■ Harness fault - Injector control circuit short circuit to ground	■ Refer to the electrical circuit diagrams and check the injector control circuit between the engine control module and the cylinder 2 injector for short circuit to ground or short between the two wires. This circuit is a twisted pair, check both hi and low sides for short circuit to ground. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ If no fault found in wiring harness suspect fuel injector
P0264-23	Cylinder 2 Injector Circuit Low - Signal Stuck Low	■ The engine control module measures a signal that remains low when transitions are expected ■ Harness fault - Short circuit between injector control circuits on different cylinders	■ Check injector/engine wiring harness for damage due to chaffing or heat. Refer to the electrical circuit diagrams and check the injector control circuits between the engine control module and the cylinder 2 injector for short to other injector control circuits. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest
P0267-00	Cylinder 3 Injector Circuit Low - No sub type information	■ Harness fault - Injector control circuit short circuit ■ Injector failure	■ Refer to the electrical circuit diagrams and check the injector control circuit between the engine control module and the cylinder 3 injector for short circuit to ground or short between the two wires. This circuit is a twisted pair, check both hi and low sides for short circuit to power. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ If no fault found in wiring harness suspect fuel injector
P0267-11	Cylinder 3 Injector Circuit Low - Circuit short To Ground	■ The engine control module has detected a ground measurement for a period longer than expected or has detected a ground measurement when another value was expected ■ Harness fault - Injector control circuit short circuit to ground	■ Refer to the electrical circuit diagrams and check the injector control circuit between the engine control module and the cylinder 3 injector for short circuit to ground or short between the two wires. This circuit is a twisted pair, check both hi and low sides for short circuit to ground. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ If no fault found in wiring harness suspect fuel injector
P0267-23	Cylinder 3 Injector Circuit Low - Signal Stuck Low	■ The engine control module measures a signal that remains low when transitions are expected ■ Harness fault - Short circuit between injector control circuits on different cylinders	■ Check injector/engine wiring harness for damage due to chaffing or heat. Refer to the electrical circuit diagrams and check the injector control circuits between the engine control module and the cylinder 3 injector for short to other injector control circuits. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P0270-00	Cylinder 4 Injector Circuit Low - No sub type information	■ Harness fault - Injector control circuit short circuit ■ Injector failure	■ Refer to the electrical circuit diagrams and check the injector control circuit between the engine control module and the cylinder 4 injector for short circuit to ground or short between the two wires. This circuit is a twisted pair, check both hi and low sides for short circuit to power. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ If no fault found in wiring harness suspect fuel injector
P0270-11	Cylinder 4 Injector Circuit Low - Circuit short to ground	■ The engine control module has detected a ground measurement for a period longer than expected or has detected a ground measurement when another value was expected ■ Harness fault - Injector control circuit short circuit to ground	■ Refer to the electrical circuit diagrams and check the injector control circuit between the engine control module and the cylinder 4 injector for short circuit to ground or short between the two wires. This circuit is a twisted pair, check both hi and low sides for short circuit to ground. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ If no fault found in wiring harness suspect fuel injector
P0270-23	Cylinder 4 Injector Circuit Low - Signal stuck low	■ The engine control module measures a signal that remains low when transitions are expected ■ Harness fault - Short circuit between injector control circuits on different cylinders	■ Check injector/engine wiring harness for damage due to chaffing or heat. Refer to the electrical circuit diagrams and check the injector control circuits between the engine control module and the cylinder 4 injector for short to other injector control circuits. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest
P0273-00	Cylinder 5 Injector Circuit Low - No sub type information	■ Harness fault - Injector control circuit short circuit ■ Injector failure	■ Refer to the electrical circuit diagrams and check the injector control circuit between the engine control module and the cylinder 5 injector for short circuit to ground or short between the two wires. This circuit is a twisted pair, check both hi and low sides for short circuit to power. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ If no fault found in wiring harness suspect fuel injector
P0273-11	Cylinder 5 Injector Circuit Low - Circuit short to ground	■ The engine control module has detected a ground measurement for a period longer than expected or has detected a ground measurement when another value was expected ■ Harness fault - Injector control circuit short circuit to ground	■ Refer to the electrical circuit diagrams and check the injector control circuit between the engine control module and the cylinder 5 injector for short circuit to ground or short between the two wires. This circuit is a twisted pair, check both hi and low sides for short circuit to ground. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ If no fault found in wiring harness suspect fuel injector

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P0273-23	Cylinder 5 Injector Circuit Low - Signal Stuck Low	■ The engine control module measures a signal that remains low when transitions are expected ■ Harness fault - Short circuit between injector control circuits on different cylinders	■ Check injector/engine wiring harness for damage due to chaffing or heat. Refer to the electrical circuit diagrams and check the injector control circuits between the engine control module and the cylinder 5 injector for short to other injector control circuits. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest
P0276-00	Cylinder 6 Injector Circuit Low - No sub type information	■ Harness fault - Injector control circuit short circuit ■ Injector failure	■ Refer to the electrical circuit diagrams and check the injector control circuit between the engine control module and the cylinder 6 injector for short circuit to ground or short between the two wires. This circuit is a twisted pair, check both hi and low sides for short circuit to power. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ If no fault found in wiring harness suspect fuel injector
P0276-11	Cylinder 6 Injector Circuit Low - Circuit short to ground	■ The engine control module has detected a ground measurement for a period longer than expected or has detected a ground measurement when another value was expected ■ Harness fault - Injector control circuit short circuit to ground	■ Refer to the electrical circuit diagrams and check the injector control circuit between the engine control module and the cylinder 6 injector for short circuit to ground or short between the two wires. This circuit is a twisted pair, check both hi and low sides for short circuit to ground. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ If no fault found in wiring harness suspect fuel injector
P0276-23	Cylinder 6 Injector Circuit Low - Signal Stuck Low	■ The engine control module measures a signal that remains low when transitions are expected ■ Harness fault - Short circuit between injector control circuits on different cylinders	■ Check injector/engine wiring harness for damage due to chaffing or heat. Refer to the electrical circuit diagrams and check the injector control circuits between the engine control module and the cylinder 6 injector for short to other injector control circuits. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest
P02CD-00	Cylinder 1 Fuel Injector Offset Learning at Max Limit - No sub type information	■ Corrected set point voltage of the piezo actuator violates the on board diagnostic limit	■ Check for other related DTCs and refer to the relevant DTC index. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ If DTC persists suspect fuel injector
P02CF-00	Cylinder 2 Fuel Injector Offset Learning at Max Limit - No sub type information	■ Corrected set point voltage of the piezo actuator violates the on board diagnostic limit	■ Check for other related DTCs and refer to the relevant DTC index. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ If DTC persists suspect fuel injector

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P02D1-00	Cylinder 3 Fuel Injector Offset Learning at Max Limit - No sub type information	■ Corrected set point voltage of the piezo actuator violates the on board diagnostic limit	■ Check for other related DTCs and refer to the relevant DTC index. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ If DTC persists suspect fuel injector
P02D3-00	Cylinder 4 Fuel Injector Offset Learning at Max Limit - No sub type information	■ Corrected set point voltage of the piezo actuator violates the on board diagnostic limit	■ Check for other related DTCs and refer to the relevant DTC index. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ If DTC persists suspect fuel injector
P02D5-00	Cylinder 5 Fuel Injector Offset Learning at Max Limit - No sub type information	■ Corrected set point voltage of the piezo actuator violates the on board diagnostic limit	■ Check for other related DTCs and refer to the relevant DTC index. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ If DTC persists suspect fuel injector
P02D7-00	Cylinder 6 Fuel Injector Offset Learning at Max Limit - No sub type information	■ Corrected set point voltage of the piezo actuator violates the on board diagnostic limit	■ Check for other related DTCs and refer to the relevant DTC index. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ If DTC persists suspect fuel injector
P02EE-17	Cylinder 1 Injector Circuit Range /Performance - Circuit Voltage Above Threshold	■ The engine control module measured a voltage above a specified range but not necessarily a short circuit to power ■ Harness fault - Injector control circuit ■ Fuel injector failure	■ This DTC is set when the engine control module monitors a voltage on the cylinder 1 injector control circuit that is above the diagnostic threshold. The injector control circuit consists of a twisted pair of wires between the engine control module and the Piezo actuator within the injector. Refer to the electrical circuit diagrams and check both the control circuits (high and low) for open circuit, short circuit to ground, short circuit to power, intermittent connections, high resistance, short to or interference from other circuits. Repair wiring harness as required ■ If there are no wiring harness faults suspect the fuel injector. Refer to the workshop manual and check/replace the fuel injector
P02EE-1C	Cylinder 1 Injector Circuit Range /Performance - Circuit Voltage Out Of Range	■ The engine control module measured a voltage outside of the expected range, but not identified as too high or too low ■ Harness fault - Injector control circuit ■ Fuel injector failure	■ This DTC is set when the engine control module monitors a voltage on the cylinder 1 injector control circuit that is out of range. The injector control circuit consists of a twisted pair of wires between the engine control module and the Piezo actuator within the injector. Refer to the electrical circuit diagrams and check both the control circuits (high and low) for open circuit, short circuit to ground, short circuit to power, intermittent connections, high resistance, short to or interference from other circuits. Repair wiring harness as required ■ If there are no wiring harness faults suspect the fuel injector. Refer to the workshop manual and check/replace the fuel injector

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P02EE-68	Cylinder 1 Injector Circuit Range /Performance - Event information	■ The engine control module indicated the detection of a system event that was not caused by the engine control module itself but forced the engine control module to store the DTC e.g. missing functionality from another system or control module ■ Harness fault - Injector control circuit ■ Fuel injector failure	■ This DTC is set when the engine control module monitors a voltage on the cylinder 1 injector control circuit that is out of range. The injector control circuit consists of a twisted pair of wires between the engine control module and the Piezo actuator within the injector. Refer to the electrical circuit diagrams and check both the control circuits (high and low) for open circuit, short circuit to ground, short circuit to power, intermittent connections, high resistance, short to or interference from other circuits. Repair wiring harness as required ■ If there are no wiring harness faults suspect the fuel injector. Refer to the workshop manual and check/replace the fuel injector
P02EF-17	Cylinder 2 Injector Circuit Range /Performance - Circuit Voltage Above Threshold	■ The engine control module measured a voltage above a specified range but not necessarily a short circuit to power ■ Harness fault - Injector control circuit ■ Fuel injector failure	■ This DTC is set when the engine control module monitors a voltage on the cylinder2 injector control circuit that is above the diagnostic threshold. The injector control circuit consists of a twisted pair of wires between the engine control module and the Piezo actuator within the injector. Refer to the electrical circuit diagrams and check both the control circuits (high and low) for open circuit, short circuit to ground, short circuit to power, intermittent connections, high resistance, short to or interference from other circuits. Repair wiring harness as required ■ If there are no wiring harness faults suspect the fuel injector. Refer to the workshop manual and check/replace the fuel injector
P02EF-1C	Cylinder 2 Injector Circuit Range /Performance - Circuit Voltage Out Of Range	■ The engine control module measured a voltage outside of the expected range, but not identified as too high or too low ■ Harness fault - Injector control circuit ■ Fuel injector failure	■ This DTC is set when the engine control module monitors a voltage on the cylinder 2 injector control circuit that is out of range. The injector control circuit consists of a twisted pair of wires between the engine control module and the Piezo actuator within the injector. Refer to the electrical circuit diagrams and check both the control circuits (high and low) for open circuit, short circuit to ground, short circuit to power, intermittent connections, high resistance, short to or interference from other circuits. Repair wiring harness as required ■ If there are no wiring harness faults suspect the fuel injector. Refer to the workshop manual and check/replace the fuel injector
P02EF-68	Cylinder 2 Injector Circuit Range /Performance - Event information	■ The engine control module indicated the detection of a system event that was not caused by the engine control module itself but forced the engine control module to store the DTC e.g. missing functionality from another system or control module ■ Harness fault - Injector control circuit ■ Fuel injector failure	■ This DTC is set when the engine control module monitors a voltage on the cylinder 2 injector control circuit that is out of range. The injector control circuit consists of a twisted pair of wires between the engine control module and the Piezo actuator within the injector. Refer to the electrical circuit diagrams and check both the control circuits (high and low) for open circuit, short circuit to ground, short circuit to power, intermittent connections, high resistance, short to or interference from other circuits. Repair wiring harness as required ■ If there are no wiring harness faults suspect the fuel injector. Refer to the workshop manual and check/replace the fuel injector

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P02F0-17	Cylinder 3 Injector Circuit Range /Performance - Circuit Voltage Above Threshold	■ The engine control module measured a voltage above a specified range but not necessarily a short circuit to power ■ Harness fault - Injector control circuit ■ Fuel injector failure	■ This DTC is set when the engine control module monitors a voltage on the cylinder 3 injector control circuit that is above the diagnostic threshold. The injector control circuit consists of a twisted pair of wires between the engine control module and the Piezo actuator within the injector. Refer to the electrical circuit diagrams and check both the control circuits (high and low) for open circuit, short circuit to ground, short circuit to power, intermittent connections, high resistance, short to or interference from other circuits. Repair wiring harness as required ■ If there are no wiring harness faults suspect the fuel injector. Refer to the workshop manual and check/replace the fuel injector
P02F0-1C	Cylinder 3 Injector Circuit Range /Performance - Circuit Voltage Out Of Range	■ The engine control module measured a voltage outside of the expected range, but not identified as too high or too low ■ Harness fault - Injector control circuit ■ Fuel injector failure	■ This DTC is set when the engine control module monitors a voltage on the cylinder 3 injector control circuit that is out of range. The injector control circuit consists of a twisted pair of wires between the engine control module and the Piezo actuator within the injector. Refer to the electrical circuit diagrams and check both the control circuits (high and low) for open circuit, short circuit to ground, short circuit to power, intermittent connections, high resistance, short to or interference from other circuits. Repair wiring harness as required ■ If there are no wiring harness faults suspect the fuel injector. Refer to the workshop manual and check/replace the fuel injector
P02F0-68	Cylinder 3 Injector Circuit Range /Performance - Event information	■ The engine control module indicated the detection of a system event that was not caused by the engine control module itself but forced the engine control module to store the DTC e.g. missing functionality from another system or control module ■ Harness fault - Injector control circuit ■ Fuel injector failure	■ This DTC is set when the engine control module monitors a voltage on the cylinder 3 injector control circuit that is out of range. The injector control circuit consists of a twisted pair of wires between the engine control module and the Piezo actuator within the injector. Refer to the electrical circuit diagrams and check both the control circuits (high and low) for open circuit, short circuit to ground, short circuit to power, intermittent connections, high resistance, short to or interference from other circuits. Repair wiring harness as required ■ If there are no wiring harness faults suspect the fuel injector. Refer to the workshop manual and check/replace the fuel injector
P02F1-17	Cylinder 4 Injector Circuit Range /Performance - Circuit Voltage Above Threshold	■ The engine control module measured a voltage above a specified range but not necessarily a short circuit to power ■ Harness fault - Injector control circuit ■ Fuel injector failure	■ This DTC is set when the engine control module monitors a voltage on the cylinder 4 injector control circuit that is above the diagnostic threshold. The injector control circuit consists of a twisted pair of wires between the engine control module and the Piezo actuator within the injector. Refer to the electrical circuit diagrams and check both the control circuits (high and low) for open circuit, short circuit to ground, short circuit to power, intermittent connections, high resistance, short to or interference from other circuits. Repair wiring harness as required ■ If there are no wiring harness faults suspect the fuel injector. Refer to the workshop manual and check/replace the fuel injector

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P02F1-1C	Cylinder 4 Injector Circuit Range /Performance - Circuit Voltage Out Of Range	■ The engine control module measured a voltage outside of the expected range, but not identified as too high or too low ■ Harness fault - Injector control circuit ■ Fuel injector failure	■ This DTC is set when the engine control module monitors a voltage on the cylinder 4 injector control circuit that is out of range. The injector control circuit consists of a twisted pair of wires between the engine control module and the Piezo actuator within the injector. Refer to the electrical circuit diagrams and check both the control circuits (high and low) for open circuit, short circuit to ground, short circuit to power, intermittent connections, high resistance, short to or interference from other circuits. Repair wiring harness as required ■ If there are no wiring harness faults suspect the fuel injector. Refer to the workshop manual and check/replace the fuel injector
P02F1-68	Cylinder 4 Injector Circuit Range /Performance - Event information	■ The engine control module indicated the detection of a system event that was not caused by the engine control module itself but forced the engine control module to store the DTC e.g. missing functionality from another system or control module ■ Harness fault - Injector control circuit ■ Fuel injector failure	■ This DTC is set when the engine control module monitors a voltage on the cylinder 4 injector control circuit that is out of range. The injector control circuit consists of a twisted pair of wires between the engine control module and the Piezo actuator within the injector. Refer to the electrical circuit diagrams and check both the control circuits (high and low) for open circuit, short circuit to ground, short circuit to power, intermittent connections, high resistance, short to or interference from other circuits. Repair wiring harness as required ■ If there are no wiring harness faults suspect the fuel injector. Refer to the workshop manual and check/replace the fuel injector
P02F2-17	Cylinder 5 Injector Circuit Range /Performance - Circuit Voltage Above Threshold	■ The engine control module measured a voltage above a specified range but not necessarily a short circuit to power ■ Harness fault - Injector control circuit ■ Fuel injector failure	■ This DTC is set when the engine control module monitors a voltage on the cylinder 5 injector control circuit that is above the diagnostic threshold. The injector control circuit consists of a twisted pair of wires between the engine control module and the Piezo actuator within the injector. Refer to the electrical circuit diagrams and check both the control circuits (high and low) for open circuit, short circuit to ground, short circuit to power, intermittent connections, high resistance, short to or interference from other circuits. Repair wiring harness as required ■ If there are no wiring harness faults suspect the fuel injector. Refer to the workshop manual and check/replace the fuel injector
P02F2-1C	Cylinder 5 Injector Circuit Range /Performance - Circuit Voltage Out Of Range	■ The engine control module measured a voltage outside of the expected range, but not identified as too high or too low ■ Harness fault - Injector control circuit ■ Fuel injector failure	■ This DTC is set when the engine control module monitors a voltage on the cylinder 5 injector control circuit that is out of range. The injector control circuit consists of a twisted pair of wires between the engine control module and the Piezo actuator within the injector. Refer to the electrical circuit diagrams and check both the control circuits (high and low) for open circuit, short circuit to ground, short circuit to power, intermittent connections, high resistance, short to or interference from other circuits. Repair wiring harness as required ■ If there are no wiring harness faults suspect the fuel injector. Refer to the workshop manual and check/replace the fuel injector

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P02F2-68	Cylinder 5 Injector Circuit Range /Performance - Event information	■ The engine control module indicated the detection of a system event that was not caused by the engine control module itself but forced the engine control module to store the DTC e.g. missing functionality from another system or control module ■ Harness fault - Injector control circuit ■ Fuel injector failure	■ This DTC is set when the engine control module monitors a voltage on the cylinder 5 injector control circuit that is out of range. The injector control circuit consists of a twisted pair of wires between the engine control module and the Piezo actuator within the injector. Refer to the electrical circuit diagrams and check both the control circuits (high and low) for open circuit, short circuit to ground, short circuit to power, intermittent connections, high resistance, short to or interference from other circuits. Repair wiring harness as required ■ If there are no wiring harness faults suspect the fuel injector. Refer to the workshop manual and check/replace the fuel injector
P02F3-17	Cylinder 6 Injector Circuit Range /Performance - Circuit Voltage Above Threshold	■ The engine control module measured a voltage above a specified range but not necessarily a short circuit to power ■ Harness fault - Injector control circuit ■ Fuel injector failure	■ This DTC is set when the engine control module monitors a voltage on the cylinder 6 injector control circuit that is above the diagnostic threshold. The injector control circuit consists of a twisted pair of wires between the engine control module and the Piezo actuator within the injector. Refer to the electrical circuit diagrams and check both the control circuits (high and low) for open circuit, short circuit to ground, short circuit to power, intermittent connections, high resistance, short to or interference from other circuits. Repair wiring harness as required ■ If there are no wiring harness faults suspect the fuel injector. Refer to the workshop manual and check/replace the fuel injector
P02F3-1C	Cylinder 6 Injector Circuit Range /Performance - Circuit Voltage Out Of Range	■ The engine control module measured a voltage outside of the expected range, but not identified as too high or too low ■ Harness fault - Injector control circuit ■ Fuel injector failure	■ This DTC is set when the engine control module monitors a voltage on the cylinder 6 injector control circuit that is out of range. The injector control circuit consists of a twisted pair of wires between the engine control module and the Piezo actuator within the injector. Refer to the electrical circuit diagrams and check both the control circuits (high and low) for open circuit, short circuit to ground, short circuit to power, intermittent connections, high resistance, short to or interference from other circuits. Repair wiring harness as required ■ If there are no wiring harness faults suspect the fuel injector. Refer to the workshop manual and check/replace the fuel injector
P02F3-68	Cylinder 6 Injector Circuit Range /Performance - Event information	■ The engine control module indicated the detection of a system event that was not caused by the engine control module itself but forced the engine control module to store the DTC e.g. missing functionality from another system or control module ■ Harness fault - Injector control circuit ■ Fuel injector failure	■ This DTC is set when the engine control module monitors a voltage on the cylinder 6 injector control circuit that is out of range. The injector control circuit consists of a twisted pair of wires between the engine control module and the Piezo actuator within the injector. Refer to the electrical circuit diagrams and check both the control circuits (high and low) for open circuit, short circuit to ground, short circuit to power, intermittent connections, high resistance, short to or interference from other circuits. Repair wiring harness as required ■ If there are no wiring harness faults suspect the fuel injector. Refer to the workshop manual and check/replace the fuel injector

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P0300-00	Random Misfire Detected - No sub type information	■ Fuel injector circuit fault(s) (injector DTCs also flagged) ■ Fuel system fault	■ Check for cylinder mis-fire, glow plug and injector DTCs and refer to the relevant DTC index. Refer to the electrical circuit diagrams and check injector circuit for short circuit to ground, short circuit to power, open circuit. Repair wiring harness as required ■ Check for fuel system failure. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest
P0301-00	Cylinder 1 Misfire Detected - No sub type information	■ Fuel injector electrical circuit fault(s) (injector DTCs also flagged) ■ Fuel injector fault ■ Cylinder compression low	■ Refer to the electrical circuit diagrams and check injector circuit for short circuit to ground, short circuit to power, open circuit. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ Check for cylinder mis-fire, glow plug and injector DTCs and refer to the relevant DTC index ■ Check for fuel injector fault or blockage. Carry out cylinder compression tests
P0302-00	Cylinder 2 Misfire Detected - No sub type information	■ Fuel injector electrical circuit fault(s) (injector DTCs also flagged) ■ Fuel injector fault ■ Cylinder compression low	■ Refer to the electrical circuit diagrams and check injector circuit for short circuit to ground, short circuit to power, open circuit. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ Check for cylinder mis-fire, glow plug and injector DTCs and refer to the relevant DTC index ■ Check for fuel injector fault or blockage. Carry out cylinder compression tests
P0303-00	Cylinder 3 Misfire Detected - No sub type information	■ Fuel injector electrical circuit fault(s) (injector DTCs also flagged) ■ Fuel injector fault ■ Cylinder compression low	■ Refer to the electrical circuit diagrams and check injector circuit for short circuit to ground, short circuit to power, open circuit. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ Check for cylinder mis-fire, glow plug and injector DTCs and refer to the relevant DTC index ■ Check for fuel injector fault or blockage. Carry out cylinder compression tests
P0304-00	Cylinder 4 Misfire Detected - No sub type information	■ Fuel injector electrical circuit fault(s) (injector DTCs also flagged) ■ Fuel injector fault ■ Cylinder compression low	■ Refer to the electrical circuit diagrams and check injector circuit for short circuit to ground, short circuit to power, open circuit. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ Check for cylinder mis-fire, glow plug and injector DTCs and refer to the relevant DTC index ■ Check for fuel injector fault or blockage. Carry out cylinder compression tests

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P0305-00	Cylinder 5 Misfire Detected - No sub type information	■ Fuel injector electrical circuit fault(s) (injector DTCs also flagged) ■ Fuel injector fault ■ Cylinder compression low	■ Refer to the electrical circuit diagrams and check injector circuit for short circuit to ground, short circuit to power, open circuit. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ Check for cylinder mis-fire, glow plug and injector DTCs and refer to the relevant DTC index ■ Check for fuel injector fault or blockage. Carry out cylinder compression tests
P0306-00	Cylinder 6 Misfire Detected - No sub type information	■ Fuel injector electrical circuit fault(s) (injector DTCs also flagged) ■ Fuel injector fault ■ Cylinder compression low	■ Refer to the electrical circuit diagrams and check injector circuit for short circuit to ground, short circuit to power, open circuit. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ Check for cylinder mis-fire, glow plug and injector DTCs and refer to the relevant DTC index ■ Check for fuel injector fault or blockage. Carry out cylinder compression tests
P0336-29	Crankshaft Position Sensor A Circuit Range /Performance - Signal Invalid	■ Crankshaft position sensor circuit for short circuit to ground, short circuit to power, open circuit, disconnected ■ Crankshaft position sensor circuit shielding failure ■ Crankshaft Position sensor failure ■ Crankshaft position sensor foreign matter on sensor face, gap incorrect ■ Target wheel failure	■ Refer to the electrical circuit diagrams and check crankshaft position sensor circuit for short circuit to ground, short circuit to power, open circuit, disconnected. Repair harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ Check and install a new crankshaft position sensor circuit shielding as required ■ Check crankshaft position sensor for foreign matter on crankshaft position sensor face. Check crankshaft position sensor air gap ■ Check and install a new crankshaft position sensor as required. Check and install a new target wheel as required
P0336-31	Crankshaft Position Sensor A Circuit Range /Performance - No Signal	**NOTE:** Circuit reference - CPS ■ Harness fault - Crankshaft position sensor circuits ■ Crankshaft position sensor failure ■ Crankshaft position sensor or reference target positioning incorrect	■ Refer to the electrical circuit diagrams. Check the wiring harness between the engine control module and the crankshaft position sensor for damage due to chaffing or heat. Check the 5 volt power supply and ground circuits to the sensor, check the signal circuit for open circuits, short circuit to power and short circuit to ground. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ If no fault found in wiring harness and sensor/target installation is correct suspect sensor failure ■ Refer to the relevant section of the workshop manual. Check the sensor and crankshaft target for damage, contamination and correct mounting

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P0336-64	Crankshaft Position Sensor A Circuit Range /Performance - Signal Plausibility Failure	■ The engine control module detected plausibility failures ■ Crankshaft position sensor circuit for short circuit to ground, short circuit to power, open circuit, disconnected ■ Crankshaft position sensor circuit shielding failure ■ Crankshaft Position sensor failure ■ Crankshaft position sensor foreign matter on sensor face, gap incorrect ■ Target wheel failure	■ Refer to the electrical circuit diagrams and check crankshaft position sensor circuit for short circuit to ground, short circuit to power, open circuit, disconnected. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ Check and install a new crankshaft position sensor circuit shielding as required ■ Check crankshaft position sensor for foreign matter on crankshaft position sensor face. Check crankshaft position sensor air gap (check at 90° intervals, should be no greater than 4.5mm) ■ Check and install a new crankshaft position sensor as required. Check and install a new target wheel as required
P0341-31	Camshaft Position Sensor A Circuit Range /Performance (Bank 1 or single sensor) - No Signal	**NOTE:** Circuit reference - CID ■ Harness fault - Camshaft position sensor circuits ■ Camshaft position sensor failure ■ Camshaft position sensor or reference target positioning incorrect	■ Refer to the electrical circuit diagrams. Check the wiring harness between the engine control module and the camshaft position sensor for damage due to chaffing or heat. Check the 5 volt power supply and ground circuits to the sensor, check the signal circuit for open circuits, short circuit to power and short circuit to ground. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ Refer to the relevant section of the workshop manual. Check the sensor and camshaft target for damage, contamination and correct mounting ■ If no fault found in wiring harness and sensor/target installation is correct suspect sensor failure
P0341-3A	Camshaft Position Sensor A Circuit Range /Performance (Bank 1 or single sensor) - Incorrect Has Too Many Pulses	**NOTE:** Circuit reference - CID ■ Harness fault - Camshaft position sensor circuits ■ Camshaft position sensor failure ■ Camshaft position sensor or reference target positioning incorrect	■ Refer to the electrical circuit diagrams. Check the wiring harness between the engine control module and the camshaft position sensor for damage due to chaffing or heat. Check the 5 volt power supply and ground circuits to the sensor, check the signal circuit for intermittent faults such as open circuits, short circuit to power and short circuit to ground. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ Refer to the relevant section of the workshop manual. Check the sensor and camshaft target for damage, contamination and correct mounting. Check camshaft timing is to specification ■ If no fault found in wiring harness and sensor/target installation is correct suspect sensor failure

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P0342-64	Camshaft Position Sensor A Circuit Low (Bank 1 or single sensor) - Signal Plausibility Failure	■ The engine control module detected plausibility failures ■ Harness fault - Camshaft position sensor circuit ■ Camshaft position sensor failure ■ Camshaft position sensor or reference target positioning incorrect	■ Refer to the electrical circuit diagrams and check the wiring harness between the engine control module and the camshaft position sensor for damage due to chaffing or heat. Check the 5 volt power supply and ground circuits to the sensor, check the signal circuit for intermittent faults such as open circuits, short circuit to power and short circuit to ground. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ Check the sensor and camshaft target for damage, contamination and correct mounting. Check camshaft timing is to specification ■ If no fault found in wiring harness and sensor/target installation is correct suspect sensor failure
P0380-11	Glow Plug /Heater Circuit A - Circuit short to ground	**NOTE:** Circuit reference - GLOWPLUG_CTRL ■ The engine control module has detected a ground measurement for a period longer than expected or has detected a ground measurement when another value was expected ■ Harness fault between engine control module and glow plug control module - Short circuit to ground ■ Component fault - Glow plug control module failure	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signal, Glow Plug Coil Duty Cycle (0x9A04). Refer to the electrical circuit diagrams and check the control circuit from the engine control module to the glow plug control module for short circuit to ground. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ If no fault found in wiring harness suspect glow plug control module
P0380-12	Glow Plug /Heater Circuit A - Circuit short to battery	**NOTE:** Circuit reference - GLOWPLUG_CTRL ■ The engine control module has detected a vehicle power measurement for a period longer than expected or has detected a vehicle power measurement when another value was expected ■ Harness fault between engine control module and glow plug control module - Short circuit to power ■ Component fault - Glow plug control module failure	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signal, Glow Plug Coil Duty Cycle (0x9A04). Refer to the electrical circuit diagrams and check the control circuit from the engine control module to the glow plug control module for short circuit to ground. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ If no fault found in wiring harness suspect glow plug control module

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P0380-13	Glow Plug /Heater Circuit A - Circuit open	**NOTE:** Circuit reference - GLOWPLUG_CTRL ■ The engine control module has determined an open circuit via lack of bias voltage, low current flow, no change in the state of an input in response to an output ■ Harness fault between engine control module and glow plug control module - open circuit ■ Component fault - Glow plug control module failure	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signal, Glow Plug Coil Duty Cycle (0x9A04) ■ Refer to the electrical circuit diagrams and check the control circuit from the engine control module to the glow plug control module for short circuit to ground. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ If no fault found in wiring harness suspect glow plug control module
P0380-4B	Glow Plug /Heater Circuit A - Over temperature	■ Harness fault - Glow plug heater circuit A short circuit to ground, short circuit to power, high resistance	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signal, Glow Plug Coil Duty Cycle (0x9A04) ■ Refer to the electrical circuit diagrams and check the glow plug heater circuit A for short circuit to ground, short circuit to power, high resistance. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest
P0401-00	Exhaust Gas Recirculation A Flow Insufficient Detected - No sub type information	■ Intake air system, low pressure boost leak bank 1 ■ Exhaust gas recirculation valve 1 circuit short circuit to ground, high resistance, open circuit, disconnected ■ Exhaust gas recirculation valve 1 failure	■ If this DTC is logged with P00BE-07 & P006A-00, suspect intake air system, low pressure boost leak bank 1 ■ Refer to the electrical circuit diagrams and check exhaust gas recirculation valve 1 circuit for short circuit to ground, high resistance, open circuit, disconnected. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ Check and install a new exhaust gas recirculation valve 1 as required
P0402-00	Exhaust Gas Recirculation A Flow Excessive Detected - No sub type information	■ Intake air system, high pressure boost leak bank 1 ■ Exhaust gas recirculation valve 1 circuit short circuit to power, high resistance, open circuit, disconnected ■ Exhaust gas recirculation valve 1 failure	■ If this DTC is logged with P1247-00, P006A-00 & P00BF-07, suspect intake air system, high pressure boost leak bank 1 ■ Refer to the electrical circuit diagrams and check exhaust gas recirculation valve 1 circuit for short circuit to power, high resistance, open circuit, disconnected. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ Check and install a new exhaust gas recirculation valve 1 as required

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P0403-13	Exhaust Gas Recirculation A Control Circuit - Circuit open	■ The engine control module has determined an open circuit via lack of bias voltage, low current flow, no change in the state of an input in response to an output ■ Exhaust gas recirculation valve 1 circuit high resistance ■ Exhaust gas recirculation valve 1 circuit open circuit ■ Exhaust gas recirculation valve 1 circuit disconnected ■ Exhaust gas recirculation valve 1 failure	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, EGR Bank 1 - Commanded (0x03FB) ■ Refer to the electrical circuit diagrams and check the bank 1 exhaust gas recirculation control circuit for open circuit. This circuit consists of two wires connected between the engine control module and the exhaust gas recirculation valve motor. Check both wires for open circuit, inspect the harness for signs of chaffing due to vibration or heat damage. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the ‘Diagnosis Menu’ tab and retest ■ If no fault found in wiring harness suspect exhaust gas recirculation control actuator failure
P0403-16	Exhaust Gas Recirculation A Control Circuit - Circuit voltage below threshold	■ The engine control module measured a voltage below a specified range but not necessarily a short circuit to ground ■ Exhaust gas recirculation valve 1 circuit short circuit to ground ■ Exhaust gas recirculation valve 1 circuit high resistance ■ Exhaust gas recirculation valve 1 circuit open circuit ■ Exhaust gas recirculation valve 1 circuit disconnected ■ Exhaust gas recirculation valve 1 failure	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, EGR Bank 1 - Commanded (0x03FB) ■ Refer to the electrical circuit diagrams and check exhaust gas recirculation valve 1 circuit for short circuit to ground. Repair wiring harness as required ■ Refer to the electrical circuit diagrams and check exhaust gas recirculation valve 1 circuit for high resistance. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the ‘Diagnosis Menu’ tab and retest ■ Refer to the electrical circuit diagrams and check exhaust gas recirculation valve 1 circuit for open circuit. Repair wiring harness as required ■ Refer to the electrical circuit diagrams and check exhaust gas recirculation valve 1 circuit for disconnected. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the ‘Diagnosis Menu’ tab and retest ■ Check and install a new exhaust gas recirculation valve 1 as required
P0403-19	Exhaust Gas Recirculation A Control Circuit - Circuit current above threshold	■ Exhaust gas recirculation valve 1 circuit short circuit to power ■ Exhaust gas recirculation valve 1 failure	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, EGR Bank 1 - Commanded (0x03FB). Refer to the electrical circuit diagrams and check exhaust gas recirculation valve 1 circuit for short power. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the ‘Diagnosis Menu’ tab and retest ■ Check and install a new exhaust gas recirculation valve 1 as required

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P0403-1D	Exhaust Gas Recirculation A Control Circuit - Circuit current out of range	■ Exhaust gas recirculation valve 1 circuit short circuit to ground ■ Exhaust gas recirculation valve 1 circuit short circuit to power ■ Exhaust gas recirculation valve 1 circuit high resistance ■ Exhaust gas recirculation valve 1 circuit open circuit ■ Exhaust gas recirculation valve 1 circuit disconnected ■ Exhaust gas recirculation valve 1 failure	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, EGR Bank 1 - Commanded (0x03FB) ■ Refer to the electrical circuit diagrams and check exhaust gas recirculation valve 1 circuit for short circuit to ground. Repair wiring harness as required ■ Refer to the electrical circuit diagrams and check exhaust gas recirculation valve 1 circuit for short circuit to power. Repair wiring harness as required ■ Refer to the electrical circuit diagrams and check exhaust gas recirculation valve 1 circuit for high resistance. Repair wiring harness as required ■ Refer to the electrical circuit diagrams and check exhaust gas recirculation valve 1 circuit for open circuit. Repair wiring harness as required ■ Refer to the electrical circuit diagrams and check exhaust gas recirculation valve 1 circuit for disconnected. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the ‘Diagnosis Menu’ tab and retest ■ Check and install a new exhaust gas recirculation valve 1 as required
P0403-4B	Exhaust Gas Recirculation A Control Circuit - Over temperature	■ Exhaust gas recirculation valve 1 circuit short circuit to ground ■ Exhaust gas recirculation valve 1 circuit short circuit to power ■ Exhaust gas recirculation valve 1 circuit high resistance ■ Exhaust gas recirculation valve 1 circuit open circuit ■ Exhaust gas recirculation valve 1 circuit disconnected ■ Exhaust gas recirculation valve 1 failure	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, EGR Bank 1 - Commanded (0x03FB) ■ Refer to the electrical circuit diagrams and check exhaust gas recirculation valve 1 circuit for short circuit to ground. Repair wiring harness as required ■ Refer to the electrical circuit diagrams and check exhaust gas recirculation valve 1 circuit for short circuit to power. Repair wiring harness as required ■ Refer to the electrical circuit diagrams and check exhaust gas recirculation valve 1 circuit for high resistance. Repair wiring harness as required ■ Refer to the electrical circuit diagrams and check exhaust gas recirculation valve 1 circuit for open circuit. Repair wiring harness as required ■ Refer to the electrical circuit diagrams and check exhaust gas recirculation valve 1 circuit for disconnected. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the ‘Diagnosis Menu’ tab and retest ■ Check and install a new exhaust gas recirculation valve 1 as required

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P0403-71	Exhaust Gas Recirculation "A" Control Circuit/Open - Actuator stuck	■ The engine control module has not detected any motion, in response to energizing a motor, solenoid or relay ■ Exhaust gas recirculation valve 1 circuit open circuit ■ Exhaust gas recirculation valve 1 circuit disconnected ■ Exhaust gas recirculation valve 1 failure	■ Refer to the electrical circuit diagrams and check exhaust gas recirculation valve 1 circuit for open circuit. Repair wiring harness as required ■ Refer to the electrical circuit diagrams and check exhaust gas recirculation valve 1 circuit for disconnected. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ Check and install a new exhaust gas recirculation valve 1 as required
P0404-19	Exhaust Gas Recirculation A Control Circuit Range /Performance - Circuit current above threshold	■ Exhaust gas recirculation valve 1 circuit short circuit to ground ■ Exhaust gas recirculation valve 1 circuit short circuit to power ■ Exhaust gas recirculation valve 1 circuit high resistance ■ Exhaust gas recirculation valve 1 failure	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, EGR Bank 1 - Commanded (0x03FB) ■ Refer to the electrical circuit diagrams and check exhaust gas recirculation valve 1 circuit for short circuit to ground. Repair wiring harness as required ■ Refer to the electrical circuit diagrams and check exhaust gas recirculation valve 1 circuit for short circuit to power. Repair wiring harness as required ■ Refer to the electrical circuit diagrams and check exhaust gas recirculation valve 1 circuit for high resistance. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ Check and install a new exhaust gas recirculation valve 1 as required
P0405-00	Exhaust Gas Recirculation Sensor A Circuit Low - No sub type information	**NOTE:** Circuit reference - EVP_A ■ Exhaust gas recirculation valve 1 circuit short circuit to ground ■ Exhaust gas recirculation valve 1 circuit high resistance ■ Exhaust gas recirculation valve 1 circuit open circuit ■ Exhaust gas recirculation valve 1 circuit disconnected ■ Exhaust gas recirculation valve 1 failure	■ Refer to the electrical circuit diagrams and check exhaust gas recirculation valve 1 circuit for short circuit to ground. Repair wiring harness as required ■ Refer to the electrical circuit diagrams and check exhaust gas recirculation valve 1 circuit for high resistance. Repair wiring harness as required ■ Refer to the electrical circuit diagrams and check exhaust gas recirculation valve 1 circuit for open circuit. Repair wiring harness as required ■ Refer to the electrical circuit diagrams and check exhaust gas recirculation valve 1 circuit for disconnected. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ Check and install a new exhaust gas recirculation valve 1 as required

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P0405-11	Exhaust Gas Recirculation Sensor A Circuit Low - Circuit short to ground	**NOTE:** Circuit reference - EVP_A ■ The engine control module has detected a ground measurement for a period longer than expected or has detected a ground measurement when another value was expected ■ Exhaust gas recirculation valve 1 position sensor circuit short circuit to ground ■ Exhaust gas recirculation valve 1 failure	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, EGR Valve Position Bank 1 (0x052E) ■ Refer to the electrical circuit diagrams and check the bank 1 exhaust gas recirculation sensor signal circuit for short circuit to ground. Check the harness between the engine control module and the exhaust gas recirculation valve for signs of chaffing or heat damage. Check the three circuits which supply the sensor. 5 volts supply, sensor signal and sensor ground. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ If no fault found in wiring harness suspect exhaust gas recirculation sensor failure
P0405-77	Exhaust Gas Recirculation Sensor A Circuit Low - Commanded position not reachable	■ The engine control module is unable to command a motor, solenoid or relay, to move a piece of equipment to the commanded position either due to a failure in the actuator or its mechanical environment ■ Exhaust gas recirculation valve 1 position sensor circuit short circuit to ground ■ Exhaust gas recirculation valve 1 failure	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, EGR Valve Position Bank 1 (0x052E) ■ Refer to the electrical circuit diagrams and check the bank 1 exhaust gas recirculation sensor signal circuit for short circuit to ground. Check the harness between the engine control module and the exhaust gas recirculation valve for signs of chaffing or heat damage. Check the three circuits which supply the sensor. 5 volts supply, sensor signal and sensor ground. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ If no fault found in wiring harness suspect exhaust gas recirculation sensor failure
P0406-00	Exhaust Gas Recirculation Sensor A Circuit High - No sub type information	**NOTE:** Circuit reference - EVP_A ■ Exhaust gas recirculation valve 1 circuit short circuit to power ■ Exhaust gas recirculation valve 1 failure	■ Refer to the electrical circuit diagrams and check exhaust gas recirculation valve bank 1 circuits for short circuit to power. Repair Wiring as required, clear the DTC and retest system ■ If no fault found in wiring harness suspect exhaust gas recirculation sensor failure

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P0406-12	Exhaust Gas Recirculation Sensor A Circuit High - Circuit short to battery	**NOTE:** Circuit reference - EVP_A ■ The engine control module has detected a vehicle power measurement for a period longer than expected or has detected a vehicle power measurement when another value was expected ■ Exhaust gas recirculation valve 1 circuit short circuit to power ■ Exhaust gas recirculation valve 1 failure	■ Refer to the electrical circuit diagrams and check the bank 1 exhaust gas recirculation sensor signal circuit for short circuit to power. Check the harness between the engine control module and the exhaust gas recirculation valve for signs of chaffing or heat damage. Check the three circuits which supply the sensor. 5 volts supply, sensor signal and sensor ground. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ If no fault found in wiring harness suspect exhaust gas recirculation sensor failure
P0406-77	Exhaust Gas Recirculation Sensor A Circuit High - Commanded position not reachable	■ The engine control module is unable to command a motor, solenoid or relay, to move a piece of equipment to the commanded position either due to a failure in the actuator or its mechanical environment ■ Exhaust gas recirculation valve 1 circuit short circuit to power ■ Exhaust gas recirculation valve 1 failure	■ Refer to the electrical circuit diagrams and check the bank 1 exhaust gas recirculation sensor signal circuit for short circuit to power. Check the harness between the engine control module and the exhaust gas recirculation valve for signs of chaffing or heat damage. Check the three circuits which supply the sensor. 5 volts supply, sensor signal and sensor ground. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ If no fault found in wiring harness suspect exhaust gas recirculation sensor failure
P0407-00	Exhaust Gas Recirculation Sensor B Circuit Low - No sub type information	**NOTE:** Circuit reference - TPS ■ Harness fault - Throttle position sensor circuit ■ Throttle position sensor failure	■ Refer to the electrical circuit diagrams and check the throttle position sensor circuits for short circuit to ground, open circuit. Repair wiring as required, clear the DTC and retest system ■ If no fault found in wiring harness suspect throttle position sensor failure
P0408-00	Exhaust Gas Recirculation Sensor B Circuit High - No sub type information	**NOTE:** Circuit reference - TPS ■ Harness fault - Throttle position sensor circuit ■ Throttle position sensor failure	■ Refer to the electrical circuit diagrams and check the throttle position sensor circuits for short circuit to ground, open circuit. Repair wiring as required, clear the DTC and retest system ■ If no fault found in wiring harness suspect throttle position sensor failure

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P0409-13	Exhaust Gas Recirculation Sensor A Circuit - Circuit open	**NOTE:** Circuit reference - EVP_A ■ The engine control module has determined an open circuit via lack of bias voltage, low current flow, no change in the state of an input in response to an output ■ Harness fault - Exhaust gas recirculation valve 1 circuit ■ Exhaust gas recirculation valve 1 failure	■ Refer to the electrical circuit diagrams and check the bank 1 exhaust gas recirculation sensor signal circuit for open circuit. Check the harness between the engine control module and the exhaust gas recirculation valve for signs of chaffing or heat damage. Check the three circuits which supply the sensor. 5 volts supply, sensor signal and sensor ground. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ If no fault found in wiring harness suspect exhaust gas recirculation sensor failure
P0409-16	Exhaust Gas Recirculation Sensor A Circuit - Circuit voltage below threshold	**NOTE:** Circuit reference - EVP_A ■ The engine control module measured a voltage below a specified range but not necessarily a short circuit to ground ■ Exhaust gas recirculation valve 1 circuit short circuit to ground ■ Exhaust gas recirculation valve 1 circuit high resistance ■ Exhaust gas recirculation valve 1 circuit open circuit ■ Exhaust gas recirculation valve 1 circuit disconnected ■ Exhaust gas recirculation valve 1 failure	■ Refer to the electrical circuit diagrams and check exhaust gas recirculation valve 1 circuit for short circuit to ground. Repair wiring harness as required ■ Refer to the electrical circuit diagrams and check exhaust gas recirculation valve 1 circuit for high resistance. Repair wiring harness as required ■ Refer to the electrical circuit diagrams and check exhaust gas recirculation valve 1 circuit for open circuit. Repair wiring harness as required ■ Refer to the electrical circuit diagrams and check exhaust gas recirculation valve 1 circuit for disconnected. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ Check and install a new exhaust gas recirculation valve 1 as required
P0409-17	Exhaust Gas Recirculation Sensor A Circuit - Circuit voltage above threshold	**NOTE:** Circuit reference - EVP_A ■ The engine control module measured a voltage above a specified range but not necessarily a short circuit to power ■ Exhaust gas recirculation valve 1 circuit short circuit to power ■ Exhaust gas recirculation valve 1 failure	■ Refer to the electrical circuit diagrams and check exhaust gas recirculation valve 1 circuit for short circuit to power. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ Check and install a new exhaust gas recirculation valve 1 as required

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P0409-92	Exhaust Gas Recirculation Sensor A Circuit - Performance or incorrect operation	■ The engine control module has detected that the component performance is outside its expected range or operating in an incorrect way ■ Exhaust gas recirculation valve 1 circuit short circuit to ground ■ Exhaust gas recirculation valve 1 circuit high resistance ■ Exhaust gas recirculation valve 1 circuit open circuit ■ Exhaust gas recirculation valve 1 circuit disconnected ■ Exhaust gas recirculation valve 1 failure	■ Refer to the electrical circuit diagrams and check exhaust gas recirculation valve 1 circuit for short circuit to ground. Repair wiring harness as required ■ Refer to the electrical circuit diagrams and check exhaust gas recirculation valve 1 circuit for high resistance. Repair wiring harness as required ■ Refer to the electrical circuit diagrams and check exhaust gas recirculation valve 1 circuit for open circuit. Repair wiring harness as required ■ Refer to the electrical circuit diagrams and check exhaust gas recirculation valve 1 circuit for disconnected. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the ‘Diagnosis Menu’ tab and retest ■ Check and install a new exhaust gas recirculation valve 1 as required
P042E-77	Exhaust Gas Recirculation A Control Stuck Open - Commanded position not reachable	■ The engine control module is unable to command a motor, solenoid or relay, to move a piece of equipment to the commanded position either due to a failure in the actuator or its mechanical environment ■ Exhaust gas recirculation valve 1 circuit short circuit to ground ■ Exhaust gas recirculation valve 1 circuit short circuit to power ■ Exhaust gas recirculation valve 1 circuit high resistance ■ Exhaust gas recirculation valve 1 circuit open circuit ■ Exhaust gas recirculation valve 1 circuit disconnected ■ Exhaust gas recirculation valve 1 failure	■ Check for other related DTCs and refer to the relevant DTC index ■ Using the Jaguar Land Rover approved diagnostic system, operate the Exhaust Recirculation Valve through the full operating range whilst monitoring the position sensor signal value. If the position signal does not change smoothly in proportion to the commands check the operation of the valve ■ Refer to the electrical circuit diagrams and check exhaust gas recirculation valve 1 circuit for short circuit to ground. Repair wiring harness as required ■ Refer to the electrical circuit diagrams and check exhaust gas recirculation valve 1 circuit for short circuit to power. Repair wiring harness as required ■ Refer to the electrical circuit diagrams and check exhaust gas recirculation valve 1 circuit for high resistance. Repair wiring harness as required ■ Refer to the electrical circuit diagrams and check exhaust gas recirculation valve 1 circuit for open circuit. Repair wiring harness as required ■ Refer to the electrical circuit diagrams and check exhaust gas recirculation valve 1 circuit for disconnected. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the ‘Diagnosis Menu’ tab and retest ■ Check and install a new exhaust gas recirculation valve 1 as required

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P042F-77	Exhaust Gas Recirculation A Control Stuck Closed - Commanded position not reachable	■ The engine control module is unable to command a motor, solenoid or relay, to move a piece of equipment to the commanded position either due to a failure in the actuator or its mechanical environment ■ Exhaust gas recirculation valve 1 circuit short circuit to ground ■ Exhaust gas recirculation valve 1 circuit short circuit to power ■ Exhaust gas recirculation valve 1 circuit high resistance ■ Exhaust gas recirculation valve 1 circuit open circuit ■ Exhaust gas recirculation valve 1 circuit disconnected ■ Exhaust gas recirculation valve 1 failure	■ Check for other related DTCs and refer to the relevant DTC index ■ Using the Jaguar Land Rover approved diagnostic system, operate the Exhaust Recirculation Valve through the full operating range whilst monitoring the position sensor signal value. If the position signal does not change smoothly in proportion to the commands check the operation of the valve ■ Refer to the electrical circuit diagrams and check exhaust gas recirculation valve 1 circuit for short circuit to ground. Repair wiring harness as required ■ Refer to the electrical circuit diagrams and check exhaust gas recirculation valve 1 circuit for short circuit to power. Repair wiring harness as required ■ Refer to the electrical circuit diagrams and check exhaust gas recirculation valve 1 circuit for high resistance. Repair wiring harness as required ■ Refer to the electrical circuit diagrams and check exhaust gas recirculation valve 1 circuit for open circuit. Repair wiring harness as required ■ Refer to the electrical circuit diagrams and check exhaust gas recirculation valve 1 circuit for disconnected. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the ‘Diagnosis Menu’ tab and retest ■ Check and install a new exhaust gas recirculation valve 1 as required
P0435-00	Catalyst Temperature Sensor Circuit (Bank 2, Sensor Circuit 1) - No sub type information	**NOTE:** Circuit reference - CCCIT_B ■ Catalyst temperature sensor bank 2, sensor 1 circuit short circuit to ground ■ Catalyst temperature sensor bank 2, sensor 1 circuit short circuit to power ■ Catalyst temperature sensor bank 2, sensor 1 circuit high resistance ■ Catalyst temperature sensor bank 2, sensor 1 circuit open circuit ■ Catalyst temperature sensor bank 2, sensor 1 circuit disconnected ■ Catalyst temperature sensor bank 2, sensor 1 failure	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, Exhaust Gas Temperature Bank 1 Sensor 1 Voltage (0x03BF), Exhaust Gas Temperature Bank 2 Sensor 1 (0x03F7) ■ Refer to the electrical circuit diagrams and check catalyst temperature sensor bank 2, sensor 1 circuit for short circuit to ground. Repair wiring harness as required ■ Refer to the electrical circuit diagrams and check catalyst temperature sensor bank 2, sensor 1 circuit for short circuit to power. Repair wiring harness as required ■ Refer to the electrical circuit diagrams and check catalyst temperature sensor bank 2, sensor 1 circuit for high resistance. Repair wiring harness as required ■ Refer to the electrical circuit diagrams and check catalyst temperature sensor bank 2, sensor 1 circuit for open circuit. Repair wiring harness as required ■ Refer to the electrical circuit diagrams and check catalyst temperature sensor bank 2, sensor 1 circuit for disconnected. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the ‘Diagnosis Menu’ tab and retest ■ Check and install a new catalyst temperature sensor - bank 2, sensor 1 as required

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P0436-00	Catalyst Temperature Sensor Circuit Range /Performance (Bank 2, Sensor Circuit 1) - No sub type information	**NOTE:** Circuit reference - CCCIT_B ■ Catalyst temperature sensor bank 2, sensor 1 circuit short circuit to ground ■ Catalyst temperature sensor bank 2, sensor 1 circuit short circuit to power ■ Catalyst temperature sensor bank 2, sensor 1 circuit high resistance ■ Catalyst temperature sensor bank 2, sensor 1 circuit open circuit ■ Catalyst temperature sensor bank 2, sensor 1 circuit disconnected ■ Catalyst temperature sensor bank 2, sensor 1 failure	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, Exhaust Gas Temperature Bank 1 Sensor 1 Voltage (0x03BF), Exhaust Gas Temperature Bank 2 Sensor 1 (0x03F7) ■ Refer to the electrical circuit diagrams and check catalyst temperature sensor bank 2, sensor 1 circuit for short circuit to ground. Repair wiring harness as required ■ Refer to the electrical circuit diagrams and check catalyst temperature sensor bank 2, sensor 1 circuit for short circuit to power. Repair wiring harness as required ■ Refer to the electrical circuit diagrams and check catalyst temperature sensor bank 2, sensor 1 circuit for high resistance. Repair wiring harness as required ■ Refer to the electrical circuit diagrams and check catalyst temperature sensor bank 2, sensor 1 circuit for open circuit. Repair wiring harness as required ■ Refer to the electrical circuit diagrams and check catalyst temperature sensor bank 2, sensor 1 circuit for disconnected. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the ‘Diagnosis Menu’ tab and retest ■ Check and install a new catalyst temperature sensor - bank 2, sensor 1 as required
P0437-00	Catalyst Temperature Sensor Circuit Low (Bank 2, Sensor Circuit 1) - No sub type information	**NOTE:** Circuit reference - CCCIT_B ■ Catalyst temperature sensor bank 2, sensor 1 circuit short circuit to ground ■ Catalyst temperature sensor bank 2, sensor 1 circuit high resistance ■ Catalyst temperature sensor bank 2, sensor 1 circuit open circuit ■ Catalyst temperature sensor bank 2, sensor 1 circuit disconnected ■ Catalyst temperature sensor bank 2, sensor 1 failure	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, Exhaust Gas Temperature Bank 1 Sensor 1 Voltage (0x03BF), Exhaust Gas Temperature Bank 2 Sensor 1 (0x03F7) ■ Refer to the electrical circuit diagrams and check catalyst temperature sensor bank 2, sensor 1 circuit for short circuit to ground. Repair wiring harness as required ■ Refer to the electrical circuit diagrams and check catalyst temperature sensor bank 2, sensor 1 circuit for high resistance. Repair wiring harness as required ■ Refer to the electrical circuit diagrams and check catalyst temperature sensor bank 2, sensor 1 circuit for open circuit. Repair wiring harness as required ■ Refer to the electrical circuit diagrams and check catalyst temperature sensor bank 2, sensor 1 circuit for disconnected. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the ‘Diagnosis Menu’ tab and retest ■ Check and install a new catalyst temperature sensor - bank 2, sensor 1 as required

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P0438-00	Catalyst Temperature Sensor Circuit High (Bank 2, Sensor Circuit 1) - No sub type information	**NOTE:** Circuit reference - CCCIT_B ■ Catalyst temperature sensor bank 2, sensor 1 circuit short circuit to power ■ Catalyst temperature sensor bank 2, sensor 1 failure	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, Exhaust Gas Temperature Bank 1 Sensor 1 Voltage (0x03BF), Exhaust Gas Temperature Bank 2 Sensor 1 (0x03F7). Refer to the electrical circuit diagrams and check catalyst temperature sensor bank 2, sensor 1 circuit for short circuit to power. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ Check and install a new catalyst temperature sensor - bank 2, sensor 1 as required
P043A-00	Catalyst Temperature Sensor Circuit (Bank 2, Sensor Circuit 2) - No sub type information	**NOTE:** Circuit reference - CCCOT_B ■ Catalyst temperature sensor bank 2, sensor 2 circuit short circuit to ground ■ Catalyst temperature sensor bank 2, sensor 2 circuit short circuit to power ■ Catalyst temperature sensor bank 2, sensor 2 circuit high resistance ■ Catalyst temperature sensor bank 2, sensor 2 circuit open circuit ■ Catalyst temperature sensor bank 2, sensor 2 circuit disconnected ■ Catalyst temperature sensor bank 2, sensor 2 failure	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, Exhaust Gas Temperature Bank 2 Sensor 2 (0x03F8), Exhaust Gas Temperature Sensor Bank 2 Sensor 2 Voltage (0x03E9) ■ Refer to the electrical circuit diagrams and check catalyst temperature sensor bank 2, sensor 2 circuit for short circuit to ground. Repair wiring harness as required ■ Refer to the electrical circuit diagrams and check catalyst temperature sensor bank 2, sensor 2 circuit for short circuit to power. Repair wiring harness as required ■ Refer to the electrical circuit diagrams and check catalyst temperature sensor bank 2, sensor 2 circuit for high resistance. Repair wiring harness as required ■ Refer to the electrical circuit diagrams and check catalyst temperature sensor bank 2, sensor 2 circuit for open circuit. Repair wiring harness as required ■ Refer to the electrical circuit diagrams and check catalyst temperature sensor bank 2, sensor 2 circuit for disconnected. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ Check and install a new catalyst temperature sensor - bank 2, sensor 2 as required

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P043B-00	Catalyst Temperature Sensor Circuit Range /Performance (Bank 2, Sensor Circuit 2) - No sub type information	**NOTE:** Circuit reference - CCCOT_B ■ Catalyst temperature sensor bank 2, sensor 2 circuit short circuit to ground ■ Catalyst temperature sensor bank 2, sensor 2 circuit short circuit to power ■ Catalyst temperature sensor bank 2, sensor 2 circuit high resistance ■ Catalyst temperature sensor bank 2, sensor 2 circuit open circuit ■ Catalyst temperature sensor bank 2, sensor 2 circuit disconnected ■ Catalyst temperature sensor bank 2, sensor 2 failure	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, Exhaust Gas Temperature Bank 2 Sensor 2 (0x03F8), Exhaust Gas Temperature Sensor Bank 2 Sensor 2 Voltage (0x03E9) ■ Refer to the electrical circuit diagrams and check catalyst temperature sensor bank 2, sensor 2 circuit for short circuit to ground. Repair wiring harness as required ■ Refer to the electrical circuit diagrams and check catalyst temperature sensor bank 2, sensor 2 circuit for short circuit to power. Repair wiring harness as required ■ Refer to the electrical circuit diagrams and check catalyst temperature sensor bank 2, sensor 2 circuit for high resistance. Repair wiring harness as required ■ Refer to the electrical circuit diagrams and check catalyst temperature sensor bank 2, sensor 2 circuit for open circuit. Repair wiring harness as required ■ Refer to the electrical circuit diagrams and check catalyst temperature sensor bank 2, sensor 2 circuit for disconnected. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the ‘Diagnosis Menu’ tab and retest ■ Check and install a new catalyst temperature sensor - bank 2, sensor 2 as required
P043C-00	Catalyst Temperature Sensor Circuit Low (Bank 2, Sensor Circuit 2) - No sub type information	**NOTE:** Circuit reference - CCCOT_B ■ Catalyst temperature sensor bank 2, sensor 2 circuit short circuit to ground ■ Catalyst temperature sensor bank 2, sensor 2 circuit high resistance ■ Catalyst temperature sensor bank 2, sensor 2 circuit open circuit ■ Catalyst temperature sensor bank 2, sensor 2 circuit disconnected ■ Catalyst temperature sensor bank 2, sensor 2 failure	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, Exhaust Gas Temperature Bank 2 Sensor 2 (0x03F8), Exhaust Gas Temperature Sensor Bank 2 Sensor 2 Voltage (0x03E9) ■ Refer to the electrical circuit diagrams and check catalyst temperature sensor bank 2, sensor 2 circuit for short circuit to ground. Repair wiring harness as required ■ Refer to the electrical circuit diagrams and check catalyst temperature sensor bank 2, sensor 2 circuit for high resistance. Repair wiring harness as required ■ Refer to the electrical circuit diagrams and check catalyst temperature sensor bank 2, sensor 2 circuit for open circuit. Repair wiring harness as required ■ Refer to the electrical circuit diagrams and check catalyst temperature sensor bank 2, sensor 2 circuit for disconnected. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the ‘Diagnosis Menu’ tab and retest ■ Check and install a new catalyst temperature sensor - bank 2, sensor 2 as required

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P043D-00	Catalyst Temperature Sensor Circuit High (Bank 2, Sensor Circuit 2) - No sub type information	**NOTE:** Circuit reference - CCCOT_B ■ Catalyst temperature sensor bank 2, sensor 2 circuit short circuit to power ■ Catalyst temperature sensor bank 2, sensor 2 failure	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, Exhaust Gas Temperature Bank 2 Sensor 2 (0x03F8), Exhaust Gas Temperature Sensor Bank 2 Sensor 2 Voltage (0x03E9) ■ Refer to the electrical circuit diagrams and check catalyst temperature sensor bank 2, sensor 2 circuit for short circuit to power. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ Check and install a new catalyst temperature sensor - bank 2, sensor 2 as required
P044A-13	Exhaust Gas Recirculation Sensor C Circuit - Circuit open	**NOTE:** Circuit reference - EVP_B ■ The engine control module has determined an open circuit via lack of bias voltage, low current flow, no change in the state of an input in response to an output ■ Exhaust gas recirculation valve bank 2 circuit high resistance ■ Exhaust gas recirculation valve bank 2 circuit open circuit ■ Exhaust gas recirculation valve bank 2 circuit disconnected ■ Exhaust gas recirculation valve bank 2 failure	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, EGR Valve Position Bank 2 (0x052F) ■ Refer to the electrical circuit diagrams and check the bank 2 exhaust gas recirculation sensor signal circuit for open circuit. Check the harness between the engine control module and the exhaust gas recirculation valve for signs of chaffing or heat damage. Check the three circuits which supply the sensor. 5 volts supply, sensor signal and sensor ground. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ If no fault found in wiring harness suspect exhaust gas recirculation sensor failure
P044A-16	Exhaust Gas Recirculation Sensor C Circuit - Circuit voltage below threshold	**NOTE:** Circuit reference - EVP_B ■ The engine control module measured a voltage below a specified range but not necessarily a short circuit to ground ■ Exhaust gas recirculation valve bank 2 circuit short circuit to ground ■ Exhaust gas recirculation valve bank 2 circuit high resistance ■ Exhaust gas recirculation valve bank 2 circuit disconnected ■ Exhaust gas recirculation valve bank 2 failure	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, EGR Valve Position Bank 2 (0x052F) ■ Refer to the electrical circuit diagrams and check exhaust gas recirculation valve bank 2 circuit for short circuit to ground. Repair wiring harness as required ■ Refer to the electrical circuit diagrams and check exhaust gas recirculation valve bank 2 circuit for high resistance. Repair wiring harness as required ■ Refer to the electrical circuit diagrams and check exhaust gas recirculation valve bank 2 circuit for disconnected. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ Check and install a new exhaust gas recirculation valve bank 2 as required

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P044A-17	Exhaust Gas Recirculation Sensor C Circuit - Circuit voltage above threshold	**NOTE:** Circuit reference - EVP_B ■ The engine control module measured a voltage above a specified range but not necessarily a short circuit to power ■ Exhaust gas recirculation valve bank 2 circuit short circuit to power ■ Exhaust gas recirculation valve bank 2 failure	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, EGR Valve Position Bank 2 (0x052F). Refer to the electrical circuit diagrams and check exhaust gas recirculation valve bank 2 circuit for short circuit to power. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ Check and install a new exhaust gas recirculation valve bank 2 as required
P044A-92	Exhaust Gas Recirculation Sensor C Circuit - Performance or incorrect operation	**NOTE:** Circuit reference - EVP_B ■ The engine control module has detected that the component performance is outside its expected range or operating in an incorrect way ■ Exhaust gas recirculation valve bank 2 circuit short circuit to ground ■ Exhaust gas recirculation valve bank 2 circuit short circuit to power ■ Exhaust gas recirculation valve bank 2 circuit open circuit ■ Exhaust gas recirculation valve bank 2 circuit high resistance ■ Exhaust gas recirculation valve bank 2 circuit disconnected ■ Exhaust gas recirculation valve bank 2 failure	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, EGR Valve Position Bank 2 (0x052F) ■ Refer to the electrical circuit diagrams and check exhaust gas recirculation valve bank 2 circuit for short circuit to ground. Repair wiring harness as required ■ Refer to the electrical circuit diagrams and check exhaust gas recirculation valve bank 2 circuit for short circuit to power. Repair wiring harness as required ■ Refer to the electrical circuit diagrams and check exhaust gas recirculation valve bank 2 circuit for open circuit. Repair wiring harness as required ■ Refer to the electrical circuit diagrams and check exhaust gas recirculation valve bank 2 circuit for high resistance. Repair wiring harness as required ■ Refer to the electrical circuit diagrams and check exhaust gas recirculation valve bank 2 circuit for disconnected. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ Check and install a new exhaust gas recirculation valve bank 2 as required

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P044C-00	Exhaust Gas Recirculation Sensor C Circuit Low - No sub type information	**NOTE:** Circuit reference - EVP_B ■ Exhaust gas recirculation valve bank 2 circuit short circuit to ground ■ Exhaust gas recirculation valve bank 2 circuit high resistance ■ Exhaust gas recirculation valve bank 2 circuit open circuit ■ Exhaust gas recirculation valve bank 2 circuit disconnected ■ Exhaust gas recirculation valve bank 2 failure	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, EGR Valve Position Bank 2 (0x052F) ■ Refer to the electrical circuit diagrams and check exhaust gas recirculation valve bank 2 circuit for short circuit to ground. Repair wiring harness as required ■ Refer to the electrical circuit diagrams and check exhaust gas recirculation valve bank 2 circuit for high resistance. Repair wiring harness as required ■ Refer to the electrical circuit diagrams and check exhaust gas recirculation valve bank 2 circuit for open circuit. Repair wiring harness as required ■ Refer to the electrical circuit diagrams and check exhaust gas recirculation valve bank 2 circuit for disconnected. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ Check and install a new exhaust gas recirculation valve bank 2 as required
P044D-00	Exhaust Gas Recirculation Sensor C Circuit High - No sub type information	**NOTE:** Circuit reference - EVP_B ■ Exhaust gas recirculation valve bank 2 circuit short circuit to power ■ Exhaust gas recirculation valve bank 2 failure	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, EGR Valve Position Bank 2 (0x052F) ■ Refer to the electrical circuit diagrams and check exhaust gas recirculation valve bank 2 circuit for short circuit to power. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ Check and install a new exhaust gas recirculation valve bank 2 as required
P045A-13	Exhaust Gas Recirculation B Control Circuit - Circuit open	**NOTE:** Circuit reference - EGR_B_NEG EGR_B_POS ■ The engine control module has determined an open circuit via lack of bias voltage, low current flow, no change in the state of an input in response to an output ■ Exhaust gas recirculation valve bank 2 circuit open circuit ■ Exhaust gas recirculation valve bank 2 circuit disconnected ■ Exhaust gas recirculation valve bank 2 failure	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, Commanded EGR Bank 2 (0x0525) ■ Refer to the electrical circuit diagrams and check the bank 2 exhaust gas recirculation control circuit for open circuit. This circuit consists of two wires connected between the engine control module and the exhaust gas recirculation valve motor. Check both wires for open circuit, inspect the harness for signs of chaffing due to vibration or heat damage. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ Refer to the electrical circuit diagrams and check the bank 2 exhaust gas recirculation control circuit for disconnected ■ If no fault found in wiring harness suspect exhaust gas recirculation control actuator failure

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P045A-16	Exhaust Gas Recirculation B Control Circuit - Circuit voltage below threshold	**NOTE:** Circuit reference - EGR_B_NEG EGR_B_POS ■ The engine control module measured a voltage below a specified range but not necessarily a short circuit to ground ■ Exhaust gas recirculation valve bank 2 circuit short circuit to ground ■ Exhaust gas recirculation valve bank 2 circuit high resistance ■ Exhaust gas recirculation valve bank 2 circuit open circuit ■ Exhaust gas recirculation valve bank 2 circuit disconnected ■ Exhaust gas recirculation valve bank 2 failure	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, Commanded EGR Bank 2 (0x0525) ■ Refer to the electrical circuit diagrams and check exhaust gas recirculation valve bank 2 circuit for short circuit to ground ■ Refer to the electrical circuit diagrams and check exhaust gas recirculation valve bank 2 circuit for high resistance ■ Refer to the electrical circuit diagrams and check exhaust gas recirculation valve bank 2 circuit for open circuit ■ Refer to the electrical circuit diagrams and check exhaust gas recirculation valve bank 2 circuit for disconnected ■ Check and install a new exhaust gas recirculation valve bank 2 as required
P045A-19	Exhaust Gas Recirculation B Control Circuit - Circuit current above threshold	**NOTE:** Circuit reference - EGR_B_NEG EGR_B_POS ■ Exhaust gas recirculation valve bank 2 circuit short circuit to ground ■ Exhaust gas recirculation valve bank 2 circuit short circuit to power ■ Exhaust gas recirculation valve bank 2 circuit high resistance ■ Exhaust gas recirculation valve bank 2 circuit open circuit ■ Exhaust gas recirculation valve bank 2 circuit disconnected ■ Exhaust gas recirculation valve bank 2 failure	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, Commanded EGR Bank 2 (0x0525) ■ Refer to the electrical circuit diagrams and check exhaust gas recirculation valve bank 2 circuit for short circuit to ground ■ Refer to the electrical circuit diagrams and check exhaust gas recirculation valve bank 2 circuit for short circuit to power ■ Refer to the electrical circuit diagrams and check exhaust gas recirculation valve bank 2 circuit for high resistance ■ Refer to the electrical circuit diagrams and check exhaust gas recirculation valve bank 2 circuit for open circuit ■ Refer to the electrical circuit diagrams and check exhaust gas recirculation valve bank 2 circuit for disconnected ■ Check and install a new exhaust gas recirculation valve bank 2 as required

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P045A-1D	Exhaust Gas Recirculation B Control Circuit - Circuit current out of range	**NOTE:** Circuit reference - EGR_B_NEG EGR_B_POS ■ Exhaust gas recirculation valve bank 2 circuit short circuit to ground ■ Exhaust gas recirculation valve bank 2 circuit short circuit to power ■ Exhaust gas recirculation valve bank 2 circuit high resistance ■ Exhaust gas recirculation valve bank 2 circuit open circuit ■ Exhaust gas recirculation valve bank 2 circuit disconnected ■ Exhaust gas recirculation valve bank 2 failure	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, Commanded EGR Bank 2 (0x0525) ■ Refer to the electrical circuit diagrams and check exhaust gas recirculation valve bank 2 circuit for short circuit to ground ■ Refer to the electrical circuit diagrams and check exhaust gas recirculation valve bank 2 circuit for short circuit to power ■ Refer to the electrical circuit diagrams and check exhaust gas recirculation valve bank 2 circuit for high resistance ■ Refer to the electrical circuit diagrams and check exhaust gas recirculation valve bank 2 circuit for open circuit ■ Refer to the electrical circuit diagrams and check exhaust gas recirculation valve bank 2 circuit for disconnected ■ Check and install a new exhaust gas recirculation valve bank 2 as required
P045A-4B	Exhaust Gas Recirculation B Control Circuit - Over temperature	**NOTE:** Circuit reference - EGR_B_NEG EGR_B_POS ■ Exhaust gas recirculation valve bank 2 circuit short circuit to ground ■ Exhaust gas recirculation valve bank 2 circuit short circuit to power ■ Exhaust gas recirculation valve bank 2 circuit high resistance ■ Exhaust gas recirculation valve bank 2 failure	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, Commanded EGR Bank 2 (0x0525) ■ Refer to the electrical circuit diagrams and check exhaust gas recirculation valve bank 2 circuit for short circuit to ground ■ Refer to the electrical circuit diagrams and check exhaust gas recirculation valve bank 2 circuit for short circuit to power ■ Refer to the electrical circuit diagrams and check exhaust gas recirculation valve bank 2 circuit for high resistance ■ Check and install a new exhaust gas recirculation valve bank 2 as required
P045A-71	Exhaust Gas Recirculation B Control Circuit - Actuator stuck	**NOTE:** Circuit reference - EGR_B_NEG EGR_B_POS ■ The engine control module has not detected any motion, in response to energizing a motor, solenoid or relay ■ Exhaust gas recirculation valve bank 2 circuit short circuit to ground ■ Exhaust gas recirculation valve bank 2 circuit short circuit to power ■ Exhaust gas recirculation valve bank 2 circuit open circuit ■ Exhaust gas recirculation valve bank 2 circuit high resistance ■ Exhaust gas recirculation valve bank 2 failure	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, Commanded EGR Bank 2 (0x0525) ■ Refer to the electrical circuit diagrams and check exhaust gas recirculation valve bank 2 circuit for short circuit to ground ■ Refer to the electrical circuit diagrams and check exhaust gas recirculation valve bank 2 circuit for short circuit to power ■ Refer to the electrical circuit diagrams and check exhaust gas recirculation valve bank 2 circuit for open circuit ■ Refer to the electrical circuit diagrams and check exhaust gas recirculation valve bank 2 circuit for high resistance ■ Check and install a new exhaust gas recirculation valve bank 2 as required

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P045B-19	Exhaust Gas Recirculation B Control Circuit Range /Performance - Circuit current above threshold	■ Exhaust gas recirculation valve bank 2 circuit short circuit to ground ■ Exhaust gas recirculation valve bank 2 circuit short circuit to power ■ Exhaust gas recirculation valve bank 2 circuit high resistance ■ Exhaust gas recirculation valve bank 2 circuit open circuit ■ Exhaust gas recirculation valve bank 2 circuit disconnected ■ Exhaust gas recirculation valve bank 2 failure	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, Commanded EGR Bank 2 (0x0525) ■ Refer to the electrical circuit diagrams and check exhaust gas recirculation valve bank 2 circuit for short circuit to ground ■ Refer to the electrical circuit diagrams and check exhaust gas recirculation valve bank 2 circuit for short circuit to power ■ Refer to the electrical circuit diagrams and check exhaust gas recirculation valve bank 2 circuit for high resistance ■ Refer to the electrical circuit diagrams and check exhaust gas recirculation valve bank 2 circuit for open circuit ■ Refer to the electrical circuit diagrams and check exhaust gas recirculation valve bank 2 circuit for disconnected ■ Check and install a new exhaust gas recirculation valve bank 2 as required
P045C-00	Exhaust Gas Recirculation B Control Circuit Low - No sub type information	**NOTE:** Circuit reference - EGR_B_NEG EGR_B_POS ■ Exhaust gas recirculation valve bank 2 circuit short circuit to ground ■ Exhaust gas recirculation valve bank 2 circuit high resistance ■ Exhaust gas recirculation valve bank 2 circuit open circuit ■ Exhaust gas recirculation valve bank 2 circuit disconnected ■ Exhaust gas recirculation valve bank 2 failure	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, Commanded EGR Bank 2 (0x0525) ■ Refer to the electrical circuit diagrams and check exhaust gas recirculation valve bank 2 circuit for short circuit to ground ■ Refer to the electrical circuit diagrams and check exhaust gas recirculation valve bank 2 circuit for high resistance ■ Refer to the electrical circuit diagrams and check exhaust gas recirculation valve bank 2 circuit for open circuit ■ Refer to the electrical circuit diagrams and check exhaust gas recirculation valve bank 2 circuit for disconnected ■ Check and install a new exhaust gas recirculation valve bank 2 as required
P045C-11	Exhaust Gas Recirculation B Control Circuit Low - Circuit short to ground	**NOTE:** Circuit reference - EGR_B_NEG EGR_B_POS ■ The engine control module has detected a ground measurement for a period longer than expected or has detected a ground measurement when another value was expected ■ Exhaust gas recirculation valve bank 2 circuit short circuit to ground ■ Exhaust gas recirculation valve bank 2 failure	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, Commanded EGR Bank 2 (0x0525). Refer to the electrical circuit diagrams and check exhaust gas recirculation valve bank 2 circuit for short circuit to ground. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the ‘Diagnosis Menu’ tab and retest ■ Check and install a new exhaust gas recirculation valve bank 2 as required

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P045C-77	Exhaust Gas Recirculation B Control Circuit Low - Commanded position not reachable	■ The engine control module is unable to command a motor, solenoid or relay, to move a piece of equipment to the commanded position either due to a failure in the actuator or its mechanical environment ■ Exhaust gas recirculation valve bank 2 circuit short circuit to ground ■ Exhaust gas recirculation valve bank 2 failure	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, Commanded EGR Bank 2 (0x0525). Refer to the electrical circuit diagrams and check exhaust gas recirculation valve bank 2 circuit for short circuit to ground. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ Check and install a new exhaust gas recirculation valve bank 2 as required
P045D-00	Exhaust Gas Recirculation B Control Circuit High - No sub type information	**NOTE:** Circuit reference - EGR_B_NEG EGR_B_POS ■ Exhaust gas recirculation valve bank 2 circuit short circuit to power ■ Exhaust gas recirculation valve bank 2 failure	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, Commanded EGR Bank 2 (0x0525). Refer to the electrical circuit diagrams and check exhaust gas recirculation valve bank 2 circuit for short circuit to power. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ Check and install a new exhaust gas recirculation valve bank 2 as required
P045D-12	Exhaust Gas Recirculation B Control Circuit High - Circuit short to battery	**NOTE:** Circuit reference - EGR_B_NEG EGR_B_POS ■ The engine control module has detected a vehicle power measurement for a period longer than expected or has detected a vehicle power measurement when another value was expected ■ Exhaust gas recirculation valve bank 2 circuit short circuit to power ■ Exhaust gas recirculation valve bank 2 failure	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, Commanded EGR Bank 2 (0x0525). Refer to the electrical circuit diagrams and check exhaust gas recirculation valve bank 2 circuit for short circuit to power. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ Check and install a new exhaust gas recirculation valve bank 2 as required
P045D-77	Exhaust Gas Recirculation B Control Circuit High - Commanded position not reachable	■ The engine control module is unable to command a motor, solenoid or relay, to move a piece of equipment to the commanded position either due to a failure in the actuator or its mechanical environment ■ Exhaust gas recirculation valve bank 2 circuit short circuit to power ■ Exhaust gas recirculation valve bank 2 failure	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, Commanded EGR Bank 2 (0x0525). Refer to the electrical circuit diagrams and check exhaust gas recirculation valve bank 2 circuit for short circuit to power. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ Check and install a new exhaust gas recirculation valve bank 2 as required

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P045E-77	Exhaust Gas Recirculation B Control Stuck Open - Commanded position not reachable	■ The engine control module is unable to command a motor, solenoid or relay, to move a piece of equipment to the commanded position either due to a failure in the actuator or its mechanical environment ■ Exhaust gas recirculation valve 2 circuit short circuit to ground ■ Exhaust gas recirculation valve 2 circuit short circuit to power ■ Exhaust gas recirculation valve 2 circuit high resistance ■ Exhaust gas recirculation valve 2 circuit open circuit ■ Exhaust gas recirculation valve 2 circuit disconnected ■ Exhaust gas recirculation valve 2 failure	■ Check for other related DTCs and refer to the relevant DTC index ■ Using the Jaguar Land Rover approved diagnostic system, operate the Exhaust Recirculation Valve through the full operating range whilst monitoring the position sensor signal value. If the position signal does not change smoothly in proportion to the commands check the operation of the valve ■ Refer to the electrical circuit diagrams and check exhaust gas recirculation valve 2 circuit for short circuit to ground. Repair wiring harness as required ■ Refer to the electrical circuit diagrams and check exhaust gas recirculation valve 2 circuit for short circuit to power. Repair wiring harness as required ■ Refer to the electrical circuit diagrams and check exhaust gas recirculation valve 2 circuit for high resistance. Repair wiring harness as required ■ Refer to the electrical circuit diagrams and check exhaust gas recirculation valve 2 circuit for open circuit. Repair wiring harness as required ■ Refer to the electrical circuit diagrams and check exhaust gas recirculation valve 2 circuit for disconnected. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the ‘Diagnosis Menu’ tab and retest ■ Check and install a new exhaust gas recirculation valve 2 as required

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P045F-77	Exhaust Gas Recirculation B Control Stuck Closed - Commanded position not reachable	■ The engine control module is unable to command a motor, solenoid or relay, to move a piece of equipment to the commanded position either due to a failure in the actuator or its mechanical environment ■ Exhaust gas recirculation valve 2 circuit short circuit to ground ■ Exhaust gas recirculation valve 2 circuit short circuit to power ■ Exhaust gas recirculation valve 2 circuit high resistance ■ Exhaust gas recirculation valve 2 circuit open circuit ■ Exhaust gas recirculation valve 2 circuit disconnected ■ Exhaust gas recirculation valve 2 failure	■ Check for other related DTCs and refer to the relevant DTC index ■ Using the Jaguar Land Rover approved diagnostic system, operate the Exhaust Recirculation Valve through the full operating range whilst monitoring the position sensor signal value. If the position signal does not change smoothly in proportion to the commands check the operation of the valve ■ Refer to the electrical circuit diagrams and check exhaust gas recirculation valve 2 circuit for short circuit to ground. Repair wiring harness as required ■ Refer to the electrical circuit diagrams and check exhaust gas recirculation valve 2 circuit for short circuit to power. Repair wiring harness as required ■ Refer to the electrical circuit diagrams and check exhaust gas recirculation valve 2 circuit for high resistance. Repair wiring harness as required ■ Refer to the electrical circuit diagrams and check exhaust gas recirculation valve 2 circuit for open circuit. Repair wiring harness as required ■ Refer to the electrical circuit diagrams and check exhaust gas recirculation valve 2 circuit for disconnected. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the ‘Diagnosis Menu’ tab and retest ■ Check and install a new exhaust gas recirculation valve 2 as required
P046E-00	Exhaust Gas Recirculation Sensor "B" Circuit Range /Performance - No sub type information	**NOTE:** Circuit reference - TPS ■ Throttle position sensor short circuit to ground, short circuit to power, open circuit, high resistance ■ Throttle position sensor failure	■ Refer to the electrical circuit diagrams and check throttle position sensor for short circuit to ground, short circuit to power, open circuit, high resistance. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the ‘Diagnosis Menu’ tab and retest ■ Check and install a new throttle position sensor as required
P0480-11	Fan 1 Control Circuit - Circuit short to ground	**NOTE:** Circuit reference - VCFC ■ The engine control module has detected a ground measurement for a period longer than expected or has detected a ground measurement when another value was expected ■ Wiring harness fault - Short circuit to ground ■ Cooling fan component fault	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, Electric Fan PWM Control - Commanded (0x03F9). Refer to the electrical circuit diagrams and check the cooling fan control circuit from the engine control module to the cooling fan fly lead for short circuit to ground ■ Check power and ground supplies to cooling fan control module, repair any wiring faults found. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the ‘Diagnosis Menu’ tab and retest

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P0480-12	Fan 1 Control Circuit - Circuit short to battery	**NOTE:** Circuit reference - VCFC ■ The engine control module has detected a vehicle power measurement for a period longer than expected or has detected a vehicle power measurement when another value was expected ■ Wiring harness fault - Short circuit to power ■ Cooling fan component fault	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, Electric Fan PWM Control - Commanded (0x03F9). Refer to the electrical circuit diagrams and check the cooling fan control circuit from the engine control module to the cooling fan fly lead for short circuit to power ■ Check power and ground supplies to cooling fan control module, repair any wiring faults found. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest
P0480-13	Fan 1 Control Circuit - Circuit open	**NOTE:** Circuit reference - VCFC ■ The engine control module has determined an open circuit via lack of bias voltage, low current flow, no change in the state of an input in response to an output ■ Wiring harness fault - Open circuit ■ Cooling fan component fault	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, Electric Fan PWM Control - Commanded (0x03F9). Refer to the electrical circuit diagrams and check the cooling fan control circuit from the engine control module to the cooling fan fly lead for open circuit ■ Check power and ground supplies to cooling fan control module, repair any wiring faults found. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest
P0480-16	Fan 1 Control Circuit - Circuit voltage below threshold	■ The engine control module has determined that the fan 1 supply voltage is below the calibrated threshold ■ Fan 1 control circuit - Open circuit, short circuit to ground, high resistance ■ Cooling fan 1 control module failure	■ Refer to the electrical circuit diagrams and check the fan 1 supply circuit for short circuit to ground, open circuit, high resistance. Check the power and ground supplies to the cooling fan 1 control module. Repair harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ Check and install a new cooling fan 1 control module as required
P0480-17	Fan 1 Control Circuit - Circuit voltage above threshold	■ The engine control module has determined that the fan 1 supply voltage is above the calibrated threshold ■ Fan 1 control circuit - Short circuit to power ■ Cooling fan 1 control module failure	■ Refer to the electrical circuit diagrams and check the fan 1 supply circuit for short circuit to power. Check the power and ground supplies to the cooling fan 1 control module. Repair harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ Check and install a new cooling fan 1 control module as required

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P0480-71	Fan 1 Control Circuit - Actuator stuck	■ The engine control module has not detected any motion, in response to energizing a motor, solenoid or relay ■ Engine cooling fan **partially** stalled ■ Engine cooling fan stalling caused by deep water wading ■ Engine cooling fan stalling caused by obstruction in fan cowling	■ Confirm if customer has been deep water wading ■ Check for damage to or blockages in fan and fouling of fan cowling. Rectify as required ■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signal - Electric Fan PWM Control - Commanded - (0x03F9) ■ Using the Jaguar Land Rover approved diagnostic system, operate cooling fan 1 through the full operating range and check that the DTC does not reset
P0480-97	Fan 1 Control Circuit - Component or system operation obstructed or blocked	■ The engine control module has detected that the operation of a component is prevented by an obstruction ■ Engine cooling fan stalled ■ Engine cooling fan stalling caused by deep water wading ■ Engine cooling fan stalling caused by obstruction in fan cowling	■ Confirm if customer has been deep water wading ■ Check for damage to or blockages in fan and fouling of fan cowling. Rectify as required ■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signal - Electric Fan PWM Control - Commanded - (0x03F9) ■ Using the Jaguar Land Rover approved diagnostic system, operate cooling fan 1 through the full operating range and check that the DTC does not reset
P0481-11	Fan 2 Control Circuit - Circuit short to ground	■ The engine control module has detected a ground measurement for a period longer than expected or has detected a ground measurement when another value was expected ■ Fan 2 control circuit - Short circuit to ground ■ Cooling fan 2 component failure	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, Electric Fan PWM Control - Commanded (0x03FA). Refer to the electrical circuit diagrams and check the cooling fan 2 control circuit for short circuit to ground. Check the power and ground supplies to the cooling fan 2 control module. Repair harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the ‘Diagnosis Menu’ tab and retest ■ Check and install a new cooling fan 2 control module as required
P0481-12	Fan 2 Control Circuit - Circuit short to battery	■ The engine control module has detected a vehicle power measurement for a period longer than expected or has detected a vehicle power measurement when another value was expected ■ Fan 2 control circuit - Short circuit to power ■ Cooling fan 2 component failure	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, Electric Fan PWM Control - Commanded (0x03FA). Refer to the electrical circuit diagrams and check the cooling fan 2 control circuit for short circuit to power. Check the power and ground supplies to the cooling fan 2 control module. Repair harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the ‘Diagnosis Menu’ tab and retest ■ Check and install a new cooling fan 2 control module as required

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P0481-13	Fan 2 Control Circuit - Circuit open	■ The engine control module has determined an open circuit via lack of bias voltage, low current flow, no change in the state of an input in response to an output ■ Fan 2 control circuit - Open circuit ■ Cooling fan 2 component failure	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, Electric Fan PWM Control - Commanded (0x03FA). Refer to the electrical circuit diagrams and check the cooling fan 2 control circuit for open circuit. Check the power and ground supplies to the cooling fan 2 control module. Repair harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ Check and install a new cooling fan 2 control module as required
P0481-16	Fan 2 Control Circuit - Circuit voltage below threshold	■ The engine control module has determined that the fan 2 supply voltage is below the calibrated threshold ■ Fan 2 control circuit - Open circuit, short circuit to ground, high resistance ■ Cooling fan 2 control module failure	■ Refer to the electrical circuit diagrams and check the fan 2 supply circuit for short circuit to ground, open circuit, high resistance. Check the power and ground supplies to the cooling fan 2 control module. Repair harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ Check and install a new cooling fan 2 control module as required
P0481-17	Fan 2 Control Circuit - Circuit voltage above threshold	■ The engine control module has determined that the fan 2 supply voltage is above the calibrated threshold ■ Fan 2 control circuit - Short circuit to power ■ Cooling fan 2 control module failure	■ Refer to the electrical circuit diagrams and check the fan 2 supply circuit for short circuit to power. Check the power and ground supplies to the cooling fan 2 control module. Repair harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ Check and install a new cooling fan 2 control module as required
P0481-71	Fan 2 Control Circuit - Actuator stuck	■ The engine control module has not detected any motion, in response to energizing a motor, solenoid or relay ■ Engine cooling fan **partially** stalled ■ Engine cooling fan stalling caused by deep water wading ■ Engine cooling fan stalling caused by obstruction in fan cowling	■ Confirm if customer has been deep water wading ■ Check for damage to or blockages in fan and fouling of fan cowling. Rectify as required ■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signal - Viscous Fan PWM Control - Commanded - (0x03FA) ■ Using the Jaguar Land Rover approved diagnostic system, operate cooling fan 2 through the full operating range and check that the DTC does not reset
P0481-97	Fan 2 Control Circuit - Component or system operation obstructed or blocked	■ The engine control module has detected that the operation of a component is prevented by an obstruction ■ Engine cooling fan stalled ■ Engine cooling fan stalling caused by deep water wading ■ Engine cooling fan stalling caused by obstruction in fan cowling	■ Confirm if customer has been deep water wading ■ Check for damage to or blockages in fan and fouling of fan cowling. Rectify as required ■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signal - Viscous Fan PWM Control - Commanded - (0x03FA) ■ Using the Jaguar Land Rover approved diagnostic system, operate cooling fan 2 through the full operating range and check that the DTC does not reset

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P0483-27	Fan Performance - Signal rate of change above threshold	■ Engine cooling fan acceleration plausibility defect ■ This DTC is set if the calculated engine cooling fan acceleration value is greater than a calibrated value	■ Refer to relevant section of workshop manual and check the viscous fan unit
P0483-36	Fan Performance - Signal frequency too low	**NOTE:** Circuit reference - VCFC CFM ■ The engine control module detected excessive duration for one cycle of the output across a specified sample size ■ Engine cooling fan speed below maximum threshold ■ Viscous fan circuit short circuit to ground, short circuit to power, open circuit, high resistance	■ Refer to electrical circuit diagrams and check the viscous fan circuit for short circuit to ground, short circuit to power, open circuit, high resistance
P0483-37	Fan Performance - Signal frequency too high	**NOTE:** Circuit reference - VCFC CFM ■ The engine control module detected insufficient duration for one cycle of the output across a specified sample size ■ Engine cooling fan speed above maximum threshold ■ Viscous fan circuit short circuit to ground, short circuit to power, open circuit, high resistance	■ Refer to electrical circuit diagrams and check the viscous fan circuit for short circuit to ground, short circuit to power, open circuit, high resistance

P0486-13	Exhaust Gas Recirculation Sensor B Circuit - Circuit open	■ Electrical Cause
		  ■ Yes
		■ Mechanical Cause
		  ■ No
		■ Control Module Cavity
		  ■ PCM circuit reference TPS
		  ■ Component circuit reference SIG
		■ Prioritised List of Possible Causes
		■ Throttle EGR Inlet (TPS) signal circuit, open circuit
			■ Prioritised Checks to Perform
			■ Refer to the electrical circuit diagrams and check the throttle EGR Inlet (TPS) signal circuit, for open circuit
			■ Install new component, only when diagnosed as failed

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION

P0486-16	Exhaust Gas Recirculation Sensor B Circuit - Circuit voltage below threshold	■ Electrical Cause
		  ■ Yes
		■ Mechanical Cause
		  ■ No
		■ Control Module Cavity
		  ■ PCM circuit reference TPS
		  ■ Component circuit reference SIG
		■ Prioritised List of Possible Causes
		■ Throttle EGR Inlet (TPS) signal circuit, short to ground
			■ Prioritised Checks to Perform
			■ Refer to the electrical circuit diagrams and check the throttle EGR Inlet (TPS) signal circuit, for short to ground
			■ Install new component, only when diagnosed as failed

P0486-17	Exhaust Gas Recirculation Sensor B Circuit - Circuit voltage above threshold	■ Electrical Cause
		  ■ Yes
		■ Mechanical Cause
		  ■ No
		■ Control Module Cavity
		  ■ PCM circuit reference TPS
		  ■ Component circuit reference SIG
		■ Prioritised List of Possible Causes
		■ Throttle EGR Inlet (TPS) signal circuit, short to power
			■ Prioritised Checks to Perform
			■ Refer to the electrical circuit diagrams and check the throttle EGR Inlet (TPS) signal circuit, for short to power
			■ Install new component, only when diagnosed as failed

P0486-92	Exhaust Gas Recirculation Sensor B Circuit - Performance or incorrect operation	■ Electrical Cause
		  ■ Yes
		■ Mechanical Cause
		  ■ Yes
		■ Control Module Cavity
		  ■ PCM circuit reference TPS
		  ■ Component circuit reference SIG
		■ Prioritised List of Possible Causes
		■ Throttle EGR Inlet (TPS) signal circuit, short to power
		■ Throttle EGR Inlet (TPS) signal circuit, short to ground
		■ Throttle EGR Inlet (TPS) signal circuit, open circuit
		■ Throttle EGR Inlet (TPS) signal circuit, high resistance
		■ Throttle EGR Inlet (TPS) signal circuit, disconnected
		■ Throttle EGR Inlet failure
			■ Prioritised Checks to Perform
			■ Refer to the electrical circuit diagrams and check the throttle EGR Inlet (TPS) signal circuit, for short to power
			■ Refer to the electrical circuit diagrams and check the throttle EGR Inlet (TPS) signal circuit, for short to ground
			■ Refer to the electrical circuit diagrams and check the throttle EGR Inlet (TPS) signal circuit, for open circuit
			■ Refer to the electrical circuit diagrams and check the throttle EGR Inlet (TPS) signal circuit, for high resistance
			■ Refer to the electrical circuit diagrams and check the throttle EGR Inlet (TPS) signal circuit, for disconnected
			■ If no fault found in wiring harness check and install a new throttle EGR Inlet unit, only when diagnosed as failed. Refer to the Warranty Policy and Procedures manual, or determine if any prior approval programme is in operation, prior to the installation of a new module /component

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P0487-00	Exhaust Gas Recirculation Throttle Control Circuit A/Open - No sub type information	■ Harness fault - Intake air shut off throttle control circuit ■ Intake air shut off throttle failure	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, Commanded Throttle Actuator Control (0xF44C). This DTC is set when the engine control module detects an open load error on the intake air shut off throttle control circuit. Refer to the electrical circuit diagrams and check the throttle plate actuator control circuits for open circuits, short circuit to ground, short circuit to power. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ If no fault found in wiring harness suspect intake air shut off throttle control actuator failure
P0487-19	Exhaust Gas Recirculation Throttle Control Circuit A/Open - Circuit current above threshold	■ Harness fault - Intake air shut off throttle control circuit short circuit to ground, high resistance, open circuit ■ Intake air shut off throttle failure	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, Commanded Throttle Actuator Control (0xF44C). This DTC is set when the engine control module detects current out of range on the intake air shut off throttle control circuit. Refer to the electrical circuit diagrams and check the throttle plate actuator control circuit for short circuit to ground, high resistance, open circuit. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ If no fault found in wiring harness suspect intake air shut off throttle control actuator failure
P0487-1D	Exhaust Gas Recirculation Throttle Control Circuit A/Open - Circuit current out of range	■ Harness fault - Intake air shut off throttle control circuit ■ Intake air shut off throttle failure	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, Commanded Throttle Actuator Control (0xF44C). This DTC is set when the engine control module detects current out of range on the intake air shut off throttle control circuit. Refer to the electrical circuit diagrams and check the throttle plate actuator control circuits for short circuit to ground, short circuit to power, short to other circuit. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ If no fault found in wiring harness suspect intake air shut off throttle control actuator failure
P0488-16	Exhaust Gas Recirculation Throttle Control Circuit A Range /Performance - Circuit voltage below threshold	■ The engine control module measured a voltage below a specified range but not necessarily a short circuit to ground ■ Harness fault - Intake air shut off throttle control circuit ■ Intake air shut off throttle failure	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, Commanded Throttle Actuator Control (0xF44C). This DTC is set when the engine control module detects voltage on the intake air shut off throttle control circuit below threshold. Refer to the electrical circuit diagrams and check the throttle plate actuator control circuits for high resistance, open circuit, short circuit to ground, short circuit to power, short to other circuit. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ If no fault found in wiring harness suspect intake air shut off throttle control actuator failure

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P0488-19	Exhaust Gas Recirculation Throttle Control Circuit A Range /Performance - Circuit current above threshold	■ Harness fault - Intake air shut off throttle control circuit short circuit to ground, high resistance ■ Intake air shut off throttle failure	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, Commanded Throttle Actuator Control (0xF44C). This DTC is set when the engine control module detects current out of range on the intake air shut off throttle control circuit. Refer to the electrical circuit diagrams and check the throttle plate actuator control circuit for short circuit to ground, high resistance. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the ‘Diagnosis Menu’ tab and retest ■ If no fault found in wiring harness suspect intake air shut off throttle control actuator failure
P0488-1D	Exhaust Gas Recirculation Throttle Control Circuit A Range /Performance - Circuit current out of range	■ Harness fault - Intake air shut off throttle control circuit ■ Intake air shut off throttle failure	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, Commanded Throttle Actuator Control (0xF44C). This DTC is set when the engine control module detects current on the intake air shut off throttle control circuit out of range. Refer to the electrical circuit diagrams and check the throttle plate actuator control circuits for high resistance, open circuit, short circuit to ground, short circuit to power, short to other circuit. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the ‘Diagnosis Menu’ tab and retest ■ If no fault found in wiring harness suspect intake air shut off throttle control actuator failure
P0488-4B	Exhaust Gas Recirculation Throttle Control Circuit A Range /Performance - Over temperature	■ Harness fault - Intake air shut off throttle control circuit short circuit to ground, short circuit to power, high resistance ■ Intake air shut off throttle failure	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, Commanded Throttle Actuator Control (0xF44C). Refer to the electrical circuit diagrams and check the intake air shut off throttle control circuit for short circuit to ground, short circuit to power, high resistance. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the ‘Diagnosis Menu’ tab and retest ■ If no fault found in wiring harness suspect intake air shut off throttle control actuator failure
P0488-72	Exhaust Gas Recirculation Throttle Control Circuit A Range /Performance - Actuator stuck open	■ The engine control module has not detected any motion, upon commanding the operation of a motor, solenoid or relay to close some piece of equipment ■ Harness fault - EGR throttle inlet control circuit short circuit to ground, short circuit to power, high resistance, open circuit ■ EGR throttle inlet control actuator failure	■ Refer to the electrical circuit diagrams and check the EGR throttle inlet control circuit for short circuit to ground, short circuit to power, high resistance, open circuit. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the ‘Diagnosis Menu’ tab and retest ■ If no fault found in wiring harness suspect EGR throttle inlet control actuator failure

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P0488-73	Exhaust Gas Recirculation Throttle Control Circuit A Range /Performance - Actuator stuck closed	■ The engine control module has not detected any motion, upon commanding the operation of a motor, solenoid or relay to open some piece of equipment ■ Harness fault - EGR throttle inlet control circuit short circuit to ground, short circuit to power, high resistance, open circuit ■ EGR throttle inlet control actuator failure	■ Refer to the electrical circuit diagrams and check the EGR throttle inlet control circuit for short circuit to ground, short circuit to power, high resistance, open circuit. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ If no fault found in wiring harness suspect EGR throttle inlet control actuator failure
P0489-77	Exhaust Gas Recirculation Control Circuit Low - Commanded position not reachable	■ The engine control module is unable to command a motor, solenoid or relay, to move a piece of equipment to the commanded position either due to a failure in the actuator or its mechanical environment ■ Throttle position sensor circuit, open circuit	■ Check for related DTCs and refer to the relevant DTC index ■ Refer to the electrical circuit diagrams and check the throttle position sensor circuit for open circuit
P0490-77	Exhaust Gas Recirculation A Control Circuit High - Commanded position not reachable	■ The engine control module is unable to command a motor, solenoid or relay, to move a piece of equipment to the commanded position either due to a failure in the actuator or its mechanical environment ■ Throttle position sensor circuit, short circuit to ground, short circuit to power, open circuit	■ Check for related DTCs and refer to the relevant DTC index ■ Refer to the electrical circuit diagrams and check the throttle position sensor circuit for short circuit to ground, short circuit to power, open circuit
P049D-00	Exhaust Gas Recirculation A Control Position Exceeded Learning Limit - No sub type information	■ Harness fault - Exhaust gas recirculation valve bank 1 control circuit short circuit to ground, short circuit to power, high resistance, open circuit ■ Exhaust gas recirculation valve bank 1 actuator failure	■ Refer to the electrical circuit diagrams and check the bank 1 exhaust gas recirculation control circuit for short circuit to ground, short circuit to power, high resistance, open circuit. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ If no fault found in wiring harness suspect exhaust gas recirculation control actuator failure
P049E-00	Exhaust Gas Recirculation B Control Position Exceeded Learning Limit - No sub type information	■ Harness fault - Exhaust gas recirculation valve bank 2 control circuit short circuit to ground, short circuit to power, high resistance, open circuit ■ Exhaust gas recirculation valve bank 2 actuator failure	■ Refer to the electrical circuit diagrams and check the bank 2 exhaust gas recirculation control circuit for short circuit to ground, short circuit to power, high resistance, open circuit. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ If no fault found in wiring harness suspect exhaust gas recirculation control actuator failure

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P0504-27	Brake Switch A /B Correlation - Signal rate of change above threshold	**NOTE:** Circuit reference - BRAKE_SW_1 BRAKE_SW_2 ■ Brake pedal switch plunger failure ■ Brake pedal switch not fitted correctly ■ Brake switch A failure	■ Check for related brake pressure DTCs within the anti-lock braking control module ■ Check brake pedal switch is fitted correctly ■ Check and install a new brake switch as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest, start the engine press the brake pedal, using maximum travel for greater than 1 second taking care not to press the accelerator pedal
P0504-62	Brake Switch A /B Correlation - Signal compare failure	**NOTE:** Circuit reference - BRAKE_SW_1 BRAKE_SW_2 ■ The engine control module detected failure when comparing two or more input parameters for plausibility ■ Error check for Brake Plausibility ■ Brake pedal switch circuit short circuit to power, open circuit	■ Refer to the electrical circuit diagrams and check brake pedal switch circuit for short circuit to power, open circuit
P050E-00	Cold Start Engine Exhaust Temperature Too Low - No sub type information	■ Engine coolant temperature sensor circuit short circuit to ground, short circuit to power, open circuit, disconnected ■ Engine coolant temperature sensor failure	■ Refer to the electrical circuit diagrams and check engine coolant temperature sensor circuit for short circuit to ground, short circuit to power, open circuit, disconnected. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ Check and install a new engine coolant temperature sensor as required
P050F-00	Brake Assist Vacuum Too Low - No sub type information	■ Harness failure - Vacuum switch circuit short circuit to ground, short circuit to power, open circuit, disconnected ■ Vacuum switch failure	■ Refer to the electrical circuit diagrams and check vacuum switch circuit for short circuit to ground, short circuit to power, open circuit, disconnected. Repair harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ Check and install a new vacuum switch as required

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P0512-24	Starter Request Circuit - Signal stuck high	**NOTE:** Circuit reference - CRANK ■ The engine control module measures a signal that remains high when transitions are expected ■ Harness fault - Starter request circuit fault ■ Central junction box fault ■ Post drive cycle not completed ■ Harness fault - CAN circuit	■ This DTC is set when the engine control module detects the engine crank signal from the central junction box is stuck high. If this DTC is logged on its own clear the DTC Using the Jaguar Land Rover approved diagnostic system,. Select PARK position. Set ignition OFF, wait 2 minutes for post drive to complete. Set ignition ON but do NOT crank. Wait 25 seconds. Crank engine and check if DTC is cleared. If this DTC is logged with lost communication DTCs refer to electrical circuit diagrams and check CAN circuit. If the engine cannot be cranked read the DTCs stored in the central junction box and refer to the relevant DTC index. Check the engine crank signal input circuit for open circuits, short circuit to power, short circuit to ground, short circuit to other circuits. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the ‘Diagnosis Menu’ tab and retest
P0512-64	Starter Request Circuit - Signal plausibility failure	■ The engine control module detected plausibility failures ■ Harness failure - Starter request circuit failure ■ Central junction box failure ■ Post drive cycle not completed ■ Harness failure - CAN circuit	■ This DTC is set when the engine control module detects the engine crank signal from the passenger compartment fuse box is stuck high. If this DTC is logged on its own clear the DTC Using the Jaguar Land Rover approved diagnostic system,. Select PARK position. Set ignition OFF, wait 2 minutes for post drive to complete. Set ignition ON but do NOT crank. Wait 25 seconds. Crank engine and check if DTC is cleared. If this DTC is logged with lost communication DTCs refer to electrical circuit diagrams and check CAN circuit. If the engine cannot be cranked read the DTCs stored in the central junction box and refer to the relevant DTC index. Check the engine crank signal input circuit for open circuits, short circuit to power, short circuit to ground, short to other circuits. Repair wiring harness as required, Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the ‘Diagnosis Menu’ tab and retest system
P0513-00	Incorrect Immobilizer Key - No sub type information	■ Security key invalid	■ Check for CAN network interference/engine control module related error. Using the Jaguar Land Rover approved diagnostic system, re-configure the engine control module with the latest level software
P0528-00	Fan Speed Sensor Circuit No Signal - No sub type information	**NOTE:** Circuit reference - CFM ■ Harness fault - Cooling fan monitor circuit	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, Fan Speed Indicated (0x0702). This DTC is set when the engine control module does not receive a signal on the cooling fan monitor circuit. Check the cooling fan monitor signal input circuit for open circuits, short circuit to power, short circuit to ground or other circuits. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the ‘Diagnosis Menu’ tab and retest

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P052F-00	Glow Plug Control Module System Voltage - No sub type information	■ Glow plug control module circuit short circuit to ground, short circuit to power, open circuit, disconnected ■ Glow plug control module failure	■ Refer to the electrical circuit diagrams and check glow plug control module circuit for short circuit to ground, short circuit to power, open circuit, disconnected ■ Check and install a new glow plug control module as required
P0544-00	Exhaust Gas Temperature Sensor Circuit - Bank 1 Sensor 1 - No sub type information	**NOTE:** Circuit reference - STOT ■ Exhaust gas temperature sensor, bank 1 sensor 1 circuit short circuit to ground ■ Exhaust gas temperature sensor, bank 1 sensor 1 circuit short circuit to power ■ Exhaust gas temperature sensor, bank 1 sensor 1 circuit high resistance ■ Exhaust gas temperature sensor, bank 1 sensor 1 circuit open circuit ■ Exhaust gas temperature sensor, bank 1 sensor 1 circuit disconnected ■ Exhaust gas temperature sensor, bank 1 sensor 1 failure	■ Refer to the electrical circuit diagrams and check exhaust gas temperature sensor, bank 1 sensor 1 circuit for short circuit to ground ■ Refer to the electrical circuit diagrams and check exhaust gas temperature sensor, bank 1 sensor 1 circuit for short circuit to power ■ Refer to the electrical circuit diagrams and check exhaust gas temperature sensor, bank 1 sensor 1 circuit for high resistance ■ Refer to the electrical circuit diagrams and check exhaust gas temperature sensor, bank 1 sensor 1 circuit for open circuit ■ Refer to the electrical circuit diagrams and check exhaust gas temperature sensor, bank 1 sensor 1 circuit for disconnected. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the ‘Diagnosis Menu’ tab and retest ■ Check and install a new exhaust gas temperature sensor, bank1 sensor 1 as required
P0545-00	Exhaust Gas Temperature Sensor Circuit Low - Bank 1 Sensor 1 - No sub type information	**NOTE:** Circuit reference - STOT ■ Exhaust gas temperature sensor, bank 1 sensor 1 circuit short circuit to ground ■ Exhaust gas temperature sensor, bank 1 sensor 1 circuit high resistance ■ Exhaust gas temperature sensor, bank 1 sensor 1 circuit open circuit ■ Exhaust gas temperature sensor, bank 1 sensor 1 circuit disconnected ■ Exhaust gas temperature sensor, bank 1 sensor 1 failure	■ Refer to the electrical circuit diagrams and check exhaust gas temperature sensor, bank 1 sensor 1 circuit for short circuit to ground ■ Refer to the electrical circuit diagrams and check exhaust gas temperature sensor, bank 1 sensor 1 circuit for high resistance ■ Refer to the electrical circuit diagrams and check exhaust gas temperature sensor, bank 1 sensor 1 circuit for open circuit ■ Refer to the electrical circuit diagrams and check exhaust gas temperature sensor, bank 1 sensor 1 circuit for disconnected. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the ‘Diagnosis Menu’ tab and retest ■ Check and install a new exhaust gas temperature sensor, bank1 sensor 1 as required

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P0546-00	Exhaust Gas Temperature Sensor Circuit High - Bank 1 Sensor 1 - No sub type information	**NOTE:** Circuit reference - STOT ■ Exhaust gas temperature sensor, bank 1 sensor 1 circuit short circuit to power ■ Exhaust gas temperature sensor, bank 1 sensor 1 failure	■ Refer to the electrical circuit diagrams and check exhaust gas temperature sensor, bank 1 sensor 1 circuit for short circuit to power. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ Check and install a new exhaust gas temperature sensor, bank1 sensor 1 as required
P0571-62	Brake Switch A Circuit - Signal compare failure	■ The engine control module detected failure when comparing two or more input parameters for plausibility ■ The brake switch signal received over CAN is defective ■ Brake switch (footbrake switch) failure	■ Using the Jaguar Land Rover approved diagnostic system, complete a CAN network integrity test ■ Check for related DTCs and refer to the relevant DTC index ■ Check and install a new brake switch as required
P0571-68	Brake Switch A Circuit - Event information	■ The engine control module indicated the detection of a system event that was not caused by the engine control module itself but forced the engine control module to store the DTC e.g. missing functionality from another system or control module ■ Brake pedal pressed by driver at same time as accelerator pedal pressed ■ Brake pedal switch - Circuit Brake_SW_1 - Short circuit to power ■ Brake switch (footbrake switch) failure	■ Ensure driver has not lightly pressed brake pedal and accelerator pedal at the same time ■ Refer to the electrical circuit diagrams and check Brake switch - Circuit Brake_SW_1 - for short circuit to power. Repair wiring harness as required, Clear the DTCs, drive the vehicle at greater than 11mph (17kph) with a throttle pedal greater than 10% for greater than 45 seconds. Press the brake pedal, using maximum travel for greater than 45 seconds, with the vehicle stationary, press the brake pedal using maximum travel for greater than 1 second ■ Check and install a new brake switch as required
P0575-81	Cruise Control Input Circuit - Invalid serial data received	■ The engine control module has indicated a signal was received with the corresponding validity bit equal to "invalid" or post processing of the signal determines it is invalid ■ The DTC sets whenever the cancel, set minus, set plus, resume, headway increase and headway decrease speed control buttons have been pressed for longer than a calibrated period of time. The system then assumes a stuck /damaged button and will cancel and /or disable cruise. The failure will be healed in the next driving cycle if the fault is removed	■ Check speed control buttons are not jammed /contaminated/damaged. Check speed control module for related DTCs and refer to the relevant DTC index

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P0602-00	Powertrain Control Module Programming Error - No sub type information	■ Mismatch between car configuration file and engine control module calibration for expected engine power output ■ Incorrect engine control module calibration for vehicle specification	■ Using the Jaguar Land Rover approved diagnostic system, re-configure the engine control module with the latest level software. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest
P0605-00	Internal Control Module Read Only Memory (ROM) Error - No sub type information	■ Corrupt engine control module software ■ Engine control module power supply fault ■ Engine control module ground supply fault ■ Engine control module failure	■ Using the Jaguar Land Rover approved diagnostic system, re-configure the engine control module with the latest level software ■ Refer to the electrical circuit diagrams and check the engine control module power supply for open circuit. Repair wiring harness as required ■ Refer to the electrical circuit diagrams and check the engine control module ground supply for open circuit. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ Check and install a new engine control module as required
P0606-00	Control Module Processor - No sub type information	■ Corrupt engine control module software ■ Engine control module power supply fault ■ Engine control module ground supply fault ■ Engine control module failure	■ Using the Jaguar Land Rover approved diagnostic system, re-configure the engine control module with the latest level software ■ Refer to the electrical circuit diagrams and check the engine control module power supply for open circuit. Repair wiring harness as required ■ Refer to the electrical circuit diagrams and check the engine control module ground supply for open circuit. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ Check and install a new engine control module as required
P0606-44	Control Module Processor - Data memory failure	■ Corrupt engine control module software ■ Engine control module power supply fault ■ Engine control module ground supply fault ■ Engine control module failure	■ Using the Jaguar Land Rover approved diagnostic system, re-configure the engine control module with the latest level software ■ Refer to the electrical circuit diagrams and check the engine control module power supply for open circuit. Repair wiring harness as required ■ Refer to the electrical circuit diagrams and check the engine control module ground supply for open circuit. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ Check and install a new engine control module as required

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P0606-49	Control Module Processor - Internal electronic failure	■ The engine control module detected an internal circuit failure ■ Corrupt engine control module software ■ Engine control module power supply fault ■ Engine control module ground supply fault ■ Engine control module failure	■ Using the Jaguar Land Rover approved diagnostic system, re-configure the engine control module with the latest level software ■ Refer to the electrical circuit diagrams and check the engine control module power supply for open circuit. Repair wiring harness as required ■ Refer to the electrical circuit diagrams and check the engine control module ground supply for open circuit. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the ‘Diagnosis Menu’ tab and retest ■ Check and install a new engine control module as required
P0607-00	Control Module Performance - No sub type information	■ Corrupt engine control module software ■ Engine control module power supply fault ■ Engine control module failure	■ Using the Jaguar Land Rover approved diagnostic system, re-configure the engine control module with the latest level software ■ Refer to the electrical circuit diagrams and check the engine control module power supply for open circuit. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the ‘Diagnosis Menu’ tab and retest ■ Check and install a new engine control module as required
P060A-00	Internal Control Module Monitoring Processor Performance - No sub type information	■ Engine control module has reset due to hardware fault	■ Check engine control module power and ground supply circuits for open circuits. Using the Jaguar Land Rover approved diagnostic system, re-configure the engine control module with the latest level software, Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the ‘Diagnosis Menu’ tab and retest ■ If the DTC resets suspect the engine control module
P060A-16	Internal Control Module Monitoring Processor Performance - Circuit voltage below threshold	■ The engine control module measured a voltage below a specified range but not necessarily a short circuit to ground ■ Corrupt engine control module software ■ Engine control module power supply fault ■ Engine control module failure	■ Using the Jaguar Land Rover approved diagnostic system, re-configure the engine control module with the latest level software ■ Refer to the electrical circuit diagrams and check the engine control module power supply for open circuit. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the ‘Diagnosis Menu’ tab and retest ■ Check and install a new engine control module as required

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P060A-17	Internal Control Module Monitoring Processor Performance - Circuit voltage above threshold	■ The engine control module measured a voltage above a specified range but not necessarily a short circuit to power ■ Corrupt engine control module software ■ Engine control module power supply fault ■ Engine control module ground supply fault ■ Engine control module failure	■ Using the Jaguar Land Rover approved diagnostic system, re-configure the engine control module with the latest level software ■ Refer to the electrical circuit diagrams and check the engine control module power supply for open circuit. Repair wiring harness as required. ■ Refer to the electrical circuit diagrams and check the engine control module ground supply for open circuit. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the ‘Diagnosis Menu’ tab and retest ■ Check and install a new engine control module as required
P060B-00	Internal Control Module A/D Processing Performance - No sub type information	■ Corrupt engine control module software ■ Engine control module power supply fault ■ Engine control module ground supply fault ■ Engine control module failure	■ Using the Jaguar Land Rover approved diagnostic system, re-configure the engine control module with the latest level software ■ Refer to the electrical circuit diagrams and check the engine control module power supply for open circuit. Repair wiring harness as required ■ Refer to the electrical circuit diagrams and check the engine control module ground supply for open circuit. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the ‘Diagnosis Menu’ tab and retest ■ Check and install a new engine control module as required
P060B-16	Internal Control Module A/D Processing Performance - Circuit voltage below threshold	■ The engine control module measured a voltage below a specified range but not necessarily a short circuit to ground ■ Corrupt engine control module software ■ Engine control module power supply fault ■ Engine control module ground supply fault ■ Engine control module failure	■ Using the Jaguar Land Rover approved diagnostic system, re-configure the engine control module with the latest level software ■ Refer to the electrical circuit diagrams and check the engine control module power supply for open circuit. Repair wiring harness as required ■ Refer to the electrical circuit diagrams and check the engine control module ground supply for open circuit. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the ‘Diagnosis Menu’ tab and retest ■ Check and install a new engine control module as required

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P060B-17	Internal Control Module A/D Processing Performance - Circuit voltage above threshold	■ The engine control module measured a voltage above a specified range but not necessarily a short circuit to power ■ Corrupt engine control module software ■ Engine control module power supply fault ■ Engine control module ground supply fault ■ Engine control module failure	■ Using the Jaguar Land Rover approved diagnostic system, re-configure the engine control module with the latest level software ■ Refer to the electrical circuit diagrams and check the engine control module power supply for open circuit. Repair wiring harness as required ■ Refer to the electrical circuit diagrams and check the engine control module ground supply for open circuit. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ Check and install a new engine control module as required
P060B-46	Internal Control Module A/D Processing Performance - Calibration /parameter memory failure	■ Corrupt engine control module software ■ Engine control module power supply fault ■ Engine control module ground supply fault ■ Engine control module failure	■ Using the Jaguar Land Rover approved diagnostic system, re-configure the engine control module with the latest level software ■ Refer to the electrical circuit diagrams and check the engine control module power supply for open circuit. Repair wiring harness as required ■ Refer to the electrical circuit diagrams and check the engine control module ground supply for open circuit. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ Check and install a new engine control module as required
P060B-49	Internal Control Module A/D Processing Performance - Internal electronic failure	■ The engine control module detected an internal circuit failure ■ Corrupt engine control module software ■ Engine control module power supply fault ■ Engine control module ground supply fault ■ Engine control module failure	■ Using the Jaguar Land Rover approved diagnostic system, re-configure the engine control module with the latest level software ■ Refer to the electrical circuit diagrams and check the engine control module power supply for open circuit. Repair wiring harness as required ■ Refer to the electrical circuit diagrams and check the engine control module ground supply for open circuit. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ Check and install a new engine control module as required

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P060B-63	Internal Control Module A/D Processing Performance - Circuit /component protection time-out	■ Corrupt engine control module software ■ Engine control module power supply fault ■ Engine control module ground supply fault ■ Engine control module failure	■ Using the Jaguar Land Rover approved diagnostic system, re-configure the engine control module with the latest level software ■ Refer to the electrical circuit diagrams and check the engine control module power supply for open circuit. Repair wiring harness as required ■ Refer to the electrical circuit diagrams and check the engine control module ground supply for open circuit. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ Check and install a new engine control module as required
P060C-00	Internal Control Module Main Processor Performance - No sub type information	■ Engine control module has reset due to hardware or software fault	■ Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest and road test vehicle including at least 5 ignition cycles. Re-check DTC and repeat above procedure. If DTC resets suspect engine control module. Check and install a new engine control module as required
P060D-00	Internal Control Module Accelerator Pedal Position Performance - No sub type information	■ Accelerator pedal position sensor circuit, short circuit to ground, short circuit to power, high resistance, open circuit ■ Accelerator pedal position sensor failure ■ Engine control module failure	■ The Accelerator Pedal Position sensor consists of two potentiometer circuits feeding independent pedal demand signals to the engine control module. Refer to the electrical circuit diagrams and check the reference voltage and ground connections to the Accelerator pedal position sensor. Check signal circuits for high resistance, open circuits, short circuit to power, short circuit to ground. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ If there are no wiring faults suspect the accelerator pedal position sensor ■ Check and install a new engine control module as required
P0610-00	Control Module Vehicle Options Error - No sub type information	■ Corrupt engine control module software ■ Engine control module power supply fault ■ Engine control module ground supply fault ■ Engine control module failure	■ Using the Jaguar Land Rover approved diagnostic system, re-configure the engine control module with the latest level software ■ Refer to the electrical circuit diagrams and check the engine control module power supply for open circuit. Repair wiring harness as required ■ Refer to the electrical circuit diagrams and check the engine control module ground supply for open circuit. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ Check and install a new engine control module as required

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P0615-00	Starter Relay Circuit - No sub type information	**NOTE:** Circuit reference - STARTER_RELAY_HIGH STARTER_RELAY_LOW ■ Corrupt engine control module software ■ Engine control module power supply fault ■ Engine control module ground supply fault ■ Engine control module failure	■ Using the Jaguar Land Rover approved diagnostic system, re-configure the engine control module with the latest level software ■ Refer to the electrical circuit diagrams and check the engine control module power supply for open circuit. Repair wiring harness as required ■ Refer to the electrical circuit diagrams and check the engine control module ground supply for open circuit. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ Check and install a new engine control module as required
P061A-00	Internal Control Module Torque Performance - No sub type information	■ Manifold air flow sensor failure ■ Electric throttle unit failure	■ Check and install a new manifold air flow sensor as required ■ Check and install a new electric throttle unit as required
P061B-00	Internal Control Module Torque Calculation Performance - No sub type information	■ Manifold air flow sensor failure ■ Electric throttle unit failure	■ Check and install a new manifold air flow sensor as required ■ Check and install a new electric throttle unit as required
P061C-00	Internal Control Module Engine RPM Performance - No sub type information	■ Corrupt engine control module software ■ Engine control module power supply fault ■ Engine control module ground supply fault ■ Engine control module failure	■ Using the Jaguar Land Rover approved diagnostic system, re-configure the engine control module with the latest level software ■ Refer to the electrical circuit diagrams and check the engine control module power supply for open circuit. Repair wiring harness as required ■ Refer to the electrical circuit diagrams and check the engine control module ground supply for open circuit. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ Check and install a new engine control module as required
P061C-11	Internal Control Module Engine RPM Performance - Circuit short to ground	■ The engine control module has detected a ground measurement for a period longer than expected or has detected a ground measurement when another value was expected ■ Internal fault within engine control module - Engine speed output short to ground	■ Refer to the electrical circuit diagrams and check the power and ground supplies to the engine control module

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P061C-12	Internal Control Module Engine RPM Performance - Circuit short to battery	■ The engine control module has detected a vehicle power measurement for a period longer than expected or has detected a vehicle power measurement when another value was expected ■ Internal fault within engine control module - Engine speed output short to power	■ Refer to the electrical circuit diagrams and check the power and ground supplies to the engine control module
P061C-13	Internal Control Module Engine RPM Performance - Circuit open	■ The engine control module has determined an open circuit via lack of bias voltage, low current flow, no change in the state of an input in response to an output ■ Internal fault within engine control module - Engine speed output open circuit	■ Refer to the electrical circuit diagrams and check the power and ground supplies to the engine control module
P0620-00	Generator Control Circuit - No sub type information	■ Electrical fault has been detected by the generator and reported to the engine control module by LIN bus ■ Generator failure	■ Refer to the electrical circuit diagrams and check the generator circuit, for short circuit to power, short circuit to ground, open circuit. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ Check and install a new generator as required
P0627-13	Fuel Pump A Control Circuit /Open - Circuit open	■ The engine control module has determined an open circuit via lack of bias voltage, low current flow, no change in the state of an input in response to an output ■ Wiring harness fault between engine control module and auxiliary junction box ■ Fuel pump - Low Pressure relay failure	**NOTE:** When this DTC is set the engine control module limits engine torque to protect the engine and avoid pulling air into the fuel system under high load ■ Check the operation of the low pressure fuel pump relay. Replace if required. Refer to the electrical circuit diagrams and check the low pressure fuel pump relay control circuit between the engine control module and the rear junction box for open circuit. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P0628-11	Fuel Pump A Control Circuit Low - Circuit short to ground	■ The engine control module has detected a ground measurement for a period longer than expected or has detected a ground measurement when another value was expected ■ Wiring harness fault between engine control module and auxiliary junction box ■ Fuel pump - Low Pressure relay failure	**NOTE:** When this DTC is set the fuel lift pump will run continuously when the ignition is on, even when the engine is stopped ■ Check the operation of the lift pump relay. Replace if required. Refer to the electrical circuit diagrams and check the low pressure fuel pump relay control circuit between the engine control module and the auxiliary junction box for a short circuit to ground. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest
P0629-12	Fuel Pump A Control Circuit High - Circuit short to battery	■ The engine control module has detected a vehicle power measurement for a period longer than expected or has detected a vehicle power measurement when another value was expected ■ Wiring harness fault between engine control module and auxiliary junction box ■ Fuel pump - Low Pressure relay failure	**NOTE:** When this DTC is set the engine control module limits engine torque to protect the engine and avoid pulling air into the fuel system under high load ■ Check the operation of the lift pump relay. Replace if required. Refer to the electrical circuit diagrams and check the low pressure fuel pump relay control circuit between the engine control module and the auxiliary junction box for a short circuit to power. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest
P062A-92	Fuel Pump A Control Circuit Range /Performance - Performance or incorrect operation	■ The engine control module has detected that the component performance is outside its expected range or operating in an incorrect way ■ Low pressure fuel pump relay has been driven by the auxiliary junction, but has not been requested by the engine control module ■ Low pressure fuel pump relay has been requested by the engine control module, but has not been driven by the auxiliary junction box ■ Wiring harness fault low pressure fuel pump monitor circuit ■ Low pressure fuel pump relay	■ Check for related DTCs within the rear junction box ■ Refer to the electrical circuit diagrams and check low pressure fuel pump relay circuit for short circuit to ground, short circuit to power, open circuit. Refer to the electrical circuit diagrams and check between the engine control module and the auxiliary junction box for short circuit to ground ■ Refer to the electrical circuit diagrams and check the rear junction box to low pressure in tank fuel pump relay for short circuit to power ■ Check and install a new low pressure fuel pump relay as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P062B-00	Internal Control Module Fuel Injector Control Performance - No sub type information	■ Injector failure(s) ■ Corrupt engine control module software ■ Engine control module power supply fault ■ Engine control module ground supply fault ■ Engine control module failure	■ Check for related injector DTCs and repair these first ■ Using the Jaguar Land Rover approved diagnostic system, re-configure the engine control module with the latest level software ■ Refer to the electrical circuit diagrams and check the engine control module power supply for open circuit. Repair wiring harness as required ■ Refer to the electrical circuit diagrams and check the engine control module ground supply for open circuit. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ Check and install a new engine control module as required
P062B-41	Internal Control Module Fuel Injector Control Performance - General checksum failure	■ Injector failure(s) ■ Corrupt engine control module software ■ Engine control module power supply fault ■ Engine control module ground supply fault ■ Engine control module failure	■ Check for related injector DTCs and repair these first. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ Using the Jaguar Land Rover approved diagnostic system, re-configure the engine control module with the latest level software ■ Refer to the electrical circuit diagrams and check the engine control module power supply for open circuit. Repair wiring harness as required ■ Refer to the electrical circuit diagrams and check the engine control module ground supply for open circuit. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ Check and install a new engine control module as required
P062B-48	Internal Control Module Fuel Injector Control Performance - Supervision software failure	■ Injector failure(s) ■ Corrupt engine control module software ■ Engine control module power supply fault ■ Engine control module ground supply fault ■ Engine control module failure	■ Check for related injector DTCs and repair these first. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ Using the Jaguar Land Rover approved diagnostic system, re-configure the engine control module with the latest level software ■ Refer to the electrical circuit diagrams and check the engine control module power supply for open circuit. Repair wiring harness as required ■ Refer to the electrical circuit diagrams and check the engine control module ground supply for open circuit. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ Check and install a new engine control module as required

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P062B-49	Internal Control Module Fuel Injector Control Performance - Internal electronic failure	■ The engine control module detected an internal circuit failure ■ Injector failure(s) ■ Corrupt engine control module software ■ Engine control module power supply fault ■ Engine control module ground supply fault ■ Engine control module failure	■ Check for related injector DTCs and repair these first. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the ‘Diagnosis Menu’ tab and retest ■ Using the Jaguar Land Rover approved diagnostic system, re-configure the engine control module with the latest level software ■ Refer to the electrical circuit diagrams and check the engine control module power supply for open circuit. Repair wiring harness as required ■ Refer to the electrical circuit diagrams and check the engine control module ground supply for open circuit. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the ‘Diagnosis Menu’ tab and retest ■ Check and install a new engine control module as required
P062B-61	Internal Control Module Fuel Injector Control Performance - Signal calculation failure	■ Injector failure(s) ■ Corrupt engine control module software ■ Engine control module power supply fault ■ Engine control module ground supply fault ■ Engine control module failure	■ Check for related injector DTCs and repair these first. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the ‘Diagnosis Menu’ tab and retest ■ Using the Jaguar Land Rover approved diagnostic system, re-configure the engine control module with the latest level software ■ Refer to the electrical circuit diagrams and check the engine control module power supply for open circuit. Repair wiring harness as required ■ Refer to the electrical circuit diagrams and check the engine control module ground supply for open circuit. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the ‘Diagnosis Menu’ tab and retest ■ Check and install a new engine control module as required

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P062B-62	Internal Control Module Fuel Injector Control Performance - Signal compare failure	■ The engine control module detected failure when comparing two or more input parameters for plausibility ■ Injector failure(s) ■ Corrupt engine control module software ■ Engine control module power supply fault ■ Engine control module ground supply fault ■ Engine control module failure	■ Check for related injector DTCs and repair these first. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the ‘Diagnosis Menu’ tab and retest ■ Using the Jaguar Land Rover approved diagnostic system, re-configure the engine control module with the latest level software ■ Refer to the electrical circuit diagrams and check the engine control module power supply for open circuit. Repair wiring harness as required ■ Refer to the electrical circuit diagrams and check the engine control module ground supply for open circuit. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the ‘Diagnosis Menu’ tab and retest ■ Check and install a new engine control module as required
P062B-64	Internal Control Module Fuel Injector Control Performance - Signal plausibility failure	■ The engine control module detected plausibility failures ■ Injector failure(s) ■ Corrupt engine control module software ■ Engine control module power supply fault ■ Engine control module ground supply fault ■ Engine control module failure	■ Check for related injector DTCs and repair these first. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the ‘Diagnosis Menu’ tab and retest ■ Using the Jaguar Land Rover approved diagnostic system, re-configure the engine control module with the latest level software ■ Refer to the electrical circuit diagrams and check the engine control module power supply for open circuit. Repair wiring harness as required ■ Refer to the electrical circuit diagrams and check the engine control module ground supply for open circuit. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the ‘Diagnosis Menu’ tab and retest ■ Check and install a new engine control module as required

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P062B-67	Internal Control Module Fuel Injector Control Performance - Signal incorrect after event	■ Injector failure(s) ■ Corrupt engine control module software ■ Engine control module power supply fault ■ Engine control module ground supply fault ■ Engine control module failure	■ Check for related injector DTCs and repair these first. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the ‘Diagnosis Menu’ tab and retest ■ Using the Jaguar Land Rover approved diagnostic system, re-configure the engine control module with the latest level software ■ Refer to the electrical circuit diagrams and check the engine control module power supply for open circuit. Repair wiring harness as required ■ Refer to the electrical circuit diagrams and check the engine control module ground supply for open circuit. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the ‘Diagnosis Menu’ tab and retest ■ Check and install a new engine control module as required
P062B-91	Internal Control Module Fuel Injector Control Performance - Parametric	■ The engine control module has detected that the component parameter e.g. capacitance or inductance is outside its expected range ■ Injector failure(s) ■ Corrupt engine control module software ■ Engine control module power supply fault ■ Engine control module ground supply fault ■ Engine control module failure	■ Check for related injector DTCs and repair these first. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the ‘Diagnosis Menu’ tab and retest ■ Using the Jaguar Land Rover approved diagnostic system, re-configure the engine control module with the latest level software ■ Refer to the electrical circuit diagrams and check the engine control module power supply for open circuit. Repair wiring harness as required ■ Refer to the electrical circuit diagrams and check the engine control module ground supply for open circuit. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the ‘Diagnosis Menu’ tab and retest ■ Check and install a new engine control module as required

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P062B-92	Internal Control Module Fuel Injector Control Performance - Performance or incorrect operation	■ The engine control module has detected that the component performance is outside its expected range or operating in an incorrect way ■ Injector failure(s) ■ Corrupt engine control module software ■ Engine control module power supply fault ■ Engine control module ground supply fault ■ Engine control module failure	■ Check for related injector DTCs and repair these first. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the ‘Diagnosis Menu’ tab and retest ■ Using the Jaguar Land Rover approved diagnostic system, re-configure the engine control module with the latest level software ■ Refer to the electrical circuit diagrams and check the engine control module power supply for open circuit. Repair wiring harness as required ■ Refer to the electrical circuit diagrams and check the engine control module ground supply for open circuit. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the ‘Diagnosis Menu’ tab and retest ■ Check and install a new engine control module as required
P062B-94	Internal Control Module Fuel Injector Control Performance - Unexpected operation	■ The engine control module has detected that the component is operating in a way or at a time that it has not been commanded to operate ■ Injector failure(s) ■ Corrupt engine control module software ■ Engine control module power supply fault ■ Engine control module ground supply fault ■ Engine control module failure	■ Check for related injector DTCs and repair these first. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the ‘Diagnosis Menu’ tab and retest ■ Using the Jaguar Land Rover approved diagnostic system, re-configure the engine control module with the latest level software ■ Refer to the electrical circuit diagrams and check the engine control module power supply for open circuit. Repair wiring harness as required. ■ Refer to the electrical circuit diagrams and check the engine control module ground supply for open circuit. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the ‘Diagnosis Menu’ tab and retest ■ Check and install a new engine control module as required

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P062B-9A	Internal Control Module Fuel Injector Control Performance - Component or system operating conditions	■ Injector failure(s) ■ Corrupt engine control module software ■ Engine control module power supply fault ■ Engine control module ground supply fault ■ Engine control module failure	■ Check for related injector DTCs and repair these first. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ Using the Jaguar Land Rover approved diagnostic system, re-configure the engine control module with the latest level software ■ Refer to the electrical circuit diagrams and check the engine control module power supply for open circuit. Repair wiring harness as required ■ Refer to the electrical circuit diagrams and check the engine control module ground supply for open circuit. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ Check and install a new engine control module as required
P062D-00	Fuel Injector Driver Circuit Performance Bank 1 - No sub type information	■ Bank 1 injector circuit(s) high resistance, short circuit to ground, short circuit to power, high resistance, open circuit, disconnected ■ Injector bank 1 failure	■ Check for related Injector DTCs. Check injector connections to Bank 1 cylinders. Refer to the electrical circuit diagrams and check Bank 1 injector circuits for short circuit to ground, short circuit to power, open circuit, high resistance. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest. If DTC remains, disconnect engine control module connector and with injector(s) connected check resistance across injector pins, this should be no higher than the injector resistance ■ Check and install a new injector(s) as required
P062D-11	Fuel Injector Driver Circuit Performance Bank 1 - Circuit short to ground	■ The engine control module has detected a ground measurement for a period longer than expected or has detected a ground measurement when another value was expected ■ Wiring harness fault - Short circuit to ground	■ Refer to the electrical circuit diagrams and check the wiring harness between engine control module and bank 1 fuel injectors for short circuit to ground
P062D-16	Fuel Injector Driver Circuit Performance Bank 1 - Circuit voltage below threshold	■ The engine control module measured a voltage below a specified range but not necessarily a short circuit to ground ■ Bank 1 injector circuit(s) high resistance, short circuit to ground, high resistance, open circuit, disconnected ■ Injector bank 1 failure	■ Check for related injector DTCs. Check injector connections to Bank 1 cylinders. Refer to the electrical circuit diagrams and check Bank 1 injector circuits for short circuit to ground, open circuit, high resistance. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest. If DTC remains, disconnect engine control module connector and with injector(s) connected check resistance across injector pins, this should be no higher than the injector resistance ■ Check and install a new injector(s) as required

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P062D-17	Fuel Injector Driver Circuit Performance Bank 1 - Circuit voltage above threshold	■ The engine control module measured a voltage above a specified range but not necessarily a short circuit to power ■ Bank 1 injector circuit(s) short circuit to power ■ Injector bank 1 failure	■ Check for related injector DTCs. Check injector connections to Bank 1 cylinders. Refer to the electrical circuit diagrams and check Bank 1 injector circuits for short circuit to power. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest. If DTC remains, disconnect engine control module connector and with injector(s) connected check resistance across injector pins, this should be no higher than the injector resistance ■ Check and install a new injector(s) as required
P062E-00	Fuel Injector Driver Circuit Performance Bank 2 - No sub type information	■ Bank 2 injector circuit(s) high resistance, short circuit to ground, short circuit to power, high resistance, open circuit, disconnected ■ Injector bank 2 failure	■ Check for related injector DTCs. Check injector connections to Bank 2 cylinders. Refer to the electrical circuit diagrams and check Bank 2 injector circuits for short circuit to ground, short circuit to power, open circuit, high resistance. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest. If DTC remains, disconnect engine control module connector and with injector(s) connected check resistance across injector pins, this should be no higher than the injector resistance ■ Check and install a new injector(s) as required
P062E-11	Fuel Injector Driver Circuit Performance Bank 2 - Circuit short to ground	■ The engine control module has detected a ground measurement for a period longer than expected or has detected a ground measurement when another value was expected ■ Wiring harness fault - Short circuit to ground	■ Refer to the electrical circuit diagrams and check the wiring harness between engine control module and bank 2 fuel injectors for short circuit to ground
P062E-17	Fuel Injector Driver Circuit Performance Bank 2 - Circuit voltage above threshold	■ The engine control module measured a voltage above a specified range but not necessarily a short circuit to power ■ Bank 2 injector circuit(s) short circuit to power ■ Injector bank 2 failure	■ Check for related injector DTCs. Check injector connections to Bank 2 cylinders. Refer to the electrical circuit diagrams and check Bank 2 injector circuits for short circuit to power. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest. If DTC remains, disconnect ECM connector and with injector(s) connected check resistance across injector pins, this should be no higher than the injector resistance ■ Check and install a new injector(s) as required
P0633-00	Immobilizer Key Not Programmed - ECM/PCM - No sub type information	■ Security key not programmed	■ Check for CAN network interference/engine control module related error. Using the Jaguar Land Rover approved diagnostic system, re-configure the engine control module with the latest level software. Using the Jaguar Land Rover approved diagnostic system, re-configure the instrument panel control module with the latest level software

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P0634-1B	Control Module Internal Temperature "A" Too High - Circuit resistance above threshold	■ Engine control module internal temperature too high ■ Engine control module failure	■ Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest, wait 10 minutes and re-check ■ Check and install a new engine control module as required
P064C-00	Glow Plug Control Module - No sub type information	■ Glow plug control module circuit short circuit to ground, short circuit to power, open circuit, disconnected ■ Glow plug control module failure	■ Refer to the electrical circuit diagrams and check glow plug control module circuit for short circuit to ground, short circuit to power, open circuit, disconnected ■ Check and install a new glow plug control module as required
P064D-00	Internal Control Module O2 Sensor Processor Performance - Bank 1 - No sub type information	■ Pre-catalyst oxygen sensor circuit short circuit to ground, short circuit to power, high resistance, open circuit ■ Pre-catalyst oxygen sensor failure ■ Engine control module failure	■ Check and repair related Heated Exhaust Gas Oxygen sensor DTCs. Refer to the electrical circuit diagrams and check Heated Exhaust Gas Oxygen sensor for short circuit to ground, short circuit to power, high resistance, open circuit ■ Check and install a new Heated Exhaust Gas Oxygen sensor as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ If DTC remains, suspect engine control module fault
P064D-16	Internal Control Module O2 Sensor Processor Performance - Bank 1 - Circuit voltage below threshold	■ The engine control module measured a voltage below a specified range but not necessarily a short circuit to ground ■ Pre-catalyst oxygen sensor circuit short circuit to ground, high resistance, open circuit ■ Pre-catalyst oxygen sensor failure ■ Engine control module failure	■ Check and repair related Heated Exhaust Gas Oxygen sensor DTCs. Refer to the electrical circuit diagrams and check Heated Exhaust Gas Oxygen sensor for short circuit to ground, high resistance, open circuit ■ Check and install a new Heated Exhaust Gas Oxygen sensor as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ If DTC remains, suspect engine control module fault
P0658-00	Actuator Supply Voltage A Circuit Low - No sub type information	■ Actuator supply circuit voltage below threshold	■ Using the Jaguar Land Rover approved diagnostic system, perform the (Turbo, EGR and air path dynamic test) routine ■ Refer to the electrical circuit diagrams and check engine control module power and ground supplies for short circuit to ground, open circuit
P0659-00	Actuator Supply Voltage A Circuit High - No sub type information	■ Actuator supply circuit voltage above threshold	■ Using the Jaguar Land Rover approved diagnostic system, perform the (Turbo, EGR and air path dynamic test) routine ■ Refer to the electrical circuit diagrams and check engine control module power and ground supplies for short circuit to power

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P065A-00	Generator System Performance - No sub type information	■ Generator circuit short circuit to ground, high resistance, open circuit ■ Generator mechanical failure	■ Refer to the electrical circuit diagrams and check generator circuit for short circuit to ground, high resistance, open circuit. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ Check and install a new generator as required
P065B-16	Generator Control Circuit Range /Performance - Circuit voltage below threshold	■ The engine control module measured a voltage below a specified range but not necessarily a short circuit to ground ■ Charging circuit short circuit to ground, short circuit to power, open circuit ■ Quiescent current high ■ Battery failure/worn out ■ Generator failure	■ Refer to the electrical circuit diagrams and check charging circuit for short circuit to ground, short circuit to power, open circuit. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest, repeat automated diagnostic procedure ■ If DTC remains check battery is in fully charged and serviceable condition using the Midtronics battery tester. Refer to the battery care requirements, section 414-00 and verify that the vehicle battery is fully charged and serviceable before continuing with further diagnostic tests ■ Check and install a new battery as required ■ Check and install a new generator as required
P065B-17	Generator Control Circuit Range /Performance - Circuit voltage above threshold	■ The engine control module measured a voltage above a specified range but not necessarily a short circuit to power ■ Generator circuit short circuit to ground, high resistance, open circuit ■ Generator mechanical failure	■ Refer to the electrical circuit diagrams and check generator circuit for short circuit to ground, high resistance, open circuit. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ Check and install a new generator as required
P0668-00	PCM/ECM /TCM Internal Temperature Sensor A Circuit Low - No sub type information	■ Engine control module internal temperature sensor failure	■ Check and install a new engine control module as required
P0669-00	PCM/ECM /TCM Internal Temperature Sensor A Circuit High - No sub type information	■ Engine control module internal temperature sensor failure	■ Check and install a new engine control module as required

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P066A-00	Cylinder 1 Glow Plug Control Circuit Low - No sub type information	■ The engine control module has detected a ground measurement for a period longer than expected or has detected a ground measurement when another value was expected ■ Harness fault - Cylinder 1 glow plug circuit short circuit to ground ■ Component fault - Glow plug failure ■ Component fault - Glow plug control module failure	■ Refer to the electrical circuit diagrams and check the glow plug control circuit between the glow plug control module and the glow plug connector for short circuit to ground, check the power supply and ground connections to the glow plug control module, ensure that the harness is checked for intermittent faults. Repair harness as required. Refer to relevant section of workshop manual, check cylinder 1 glow plug for internal short circuit to ground. Replace glow plug if required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ If DTC resets suspect glow plug control module
P066C-00	Cylinder 2 Glow Plug Control Circuit Low - No sub type information	■ The engine control module has detected a ground measurement for a period longer than expected or has detected a ground measurement when another value was expected ■ Harness fault - Cylinder 2 glow plug circuit short circuit to ground ■ Component fault - Glow plug failure ■ Component fault - Glow plug control module failure	■ Refer to the electrical circuit diagrams and check the glow plug control circuit between the glow plug control module and the glow plug connector for short circuit to ground, check the power supply and ground connections to the glow plug control module, ensure that the harness is checked for intermittent faults. Repair harness as required. Refer to relevant section of workshop manual, check cylinder 2 glow plug for internal short circuit to ground. Replace glow plug if required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ If DTC resets suspect glow plug control module
P066E-00	Cylinder 3 Glow Plug Control Circuit Low - No sub type information	■ The engine control module has detected a ground measurement for a period longer than expected or has detected a ground measurement when another value was expected ■ Harness fault - Cylinder 3 glow plug circuit short circuit to ground ■ Component fault - Glow plug failure ■ Component fault - Glow plug control module failure	■ Refer to the electrical circuit diagrams and check the glow plug control circuit between the glow plug control module and the glow plug connector for short circuit to ground, check the power supply and ground connections to the glow plug control module, ensure that the harness is checked for intermittent faults. Repair harness as required. Refer to relevant section of workshop manual, check cylinder 3 glow plug for internal short circuit to ground. Replace glow plug if required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ If DTC resets suspect glow plug control module
P0671-00	Cylinder 1 Glow Plug Circuit/Open - No sub type information	■ Cylinder 1 glow plug control circuit high resistance ■ Cylinder 1 glow plug control circuit disconnected ■ Cylinder 1 glow plug failure	■ Refer to the electrical circuit diagrams and check cylinder 1 glow plug circuit for high resistance. Repair wiring harness as required ■ Refer to the electrical circuit diagrams and check cylinder 1 glow plug circuit for high resistance. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ Check and install a new cylinder 1 glow plug as required

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P0672-00	Cylinder 2 Glow Plug Circuit/Open - No sub type information	■ Cylinder 2 glow plug control circuit high resistance ■ Cylinder 2 glow plug control circuit disconnected ■ Cylinder 2 glow plug failure	■ Refer to the electrical circuit diagrams and check cylinder 2 glow plug circuit for high resistance. Repair wiring harness as required ■ Refer to the electrical circuit diagrams and check cylinder 2 glow plug circuit for high resistance. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ Check and install a new cylinder 2 glow plug as required
P0673-00	Cylinder 3 Glow Plug Circuit/Open - No sub type information	■ Cylinder 3 glow plug control circuit high resistance ■ Cylinder 3 glow plug control circuit disconnected ■ Cylinder 3 glow plug failure	■ Refer to the electrical circuit diagrams and check cylinder 3 glow plug circuit for high resistance. Repair wiring harness as required ■ Refer to the electrical circuit diagrams and check cylinder 3 glow plug circuit for high resistance. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ Check and install a new cylinder 3 glow plug as required
P0674-00	Cylinder 4 Glow Plug Circuit/Open - No sub type information	■ Cylinder 4 glow plug control circuit high resistance ■ Cylinder 4 glow plug control circuit disconnected ■ Cylinder 4 glow plug failure	■ Refer to the electrical circuit diagrams and check cylinder 4 glow plug circuit for high resistance. Repair wiring harness as required ■ Refer to the electrical circuit diagrams and check cylinder 4 glow plug circuit for high resistance. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ Check and install a new cylinder 4 glow plug as required
P0675-00	Cylinder 5 Glow Plug Circuit/Open - No sub type information	■ Cylinder 5 glow plug control circuit high resistance ■ Cylinder 5 glow plug control circuit disconnected ■ Cylinder 5 glow plug failure	■ Refer to the electrical circuit diagrams and check cylinder 5 glow plug circuit for high resistance. Repair wiring harness as required ■ Refer to the electrical circuit diagrams and check cylinder 5 glow plug circuit for high resistance. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ Check and install a new cylinder 5 glow plug as required
P0676-00	Cylinder 6 Glow Plug Circuit/Open - No sub type information	■ Cylinder 6 glow plug control circuit high resistance ■ Cylinder 6 glow plug control circuit disconnected ■ Cylinder 6 glow plug failure	■ Refer to the electrical circuit diagrams and check cylinder 6 glow plug circuit for high resistance. Repair wiring harness as required ■ Refer to the electrical circuit diagrams and check cylinder 6 glow plug circuit for high resistance. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ Check and install a new cylinder 6 glow plug as required

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P067A-00	Cylinder 4 Glow Plug Control Circuit Low - No sub type information	■ The engine control module has detected a ground measurement for a period longer than expected or has detected a ground measurement when another value was expected ■ Harness fault - Cylinder 4 glow plug circuit short circuit to ground ■ Component fault - Glow plug failure ■ Component fault - Glow plug control module failure	■ Refer to the electrical circuit diagrams and check the glow plug control circuit between the glow plug control module and the glow plug connector for short circuit to ground, check the power supply and ground connections to the glow plug control module, ensure that the harness is checked for intermittent faults. Repair harness as required. Refer to relevant section of workshop manual, check cylinder 4 glow plug for internal short circuit to ground. Replace glow plug if required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ If DTC resets suspect glow plug control module
P067C-00	Cylinder 5 Glow Plug Control Circuit Low - No sub type information	■ The engine control module has detected a ground measurement for a period longer than expected or has detected a ground measurement when another value was expected ■ Harness fault - Cylinder 5 glow plug circuit short circuit to ground ■ Component fault - Glow plug failure ■ Component fault - Glow plug control module failure	■ Refer to the electrical circuit diagrams and check the glow plug control circuit between the glow plug control module and the glow plug connector for short circuit to ground, check the power supply and ground connections to the glow plug control module, ensure that the harness is checked for intermittent faults. Repair harness as required. Refer to relevant section of workshop manual, check cylinder 5 glow plug for internal short circuit to ground. Replace glow plug if required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ If DTC resets suspect glow plug control module
P067E-00	Cylinder 6 Glow Plug Control Circuit Low - No sub type information	■ The engine control module has detected a ground measurement for a period longer than expected or has detected a ground measurement when another value was expected ■ Harness fault - Cylinder 6 glow plug circuit short circuit to ground ■ Component fault - Glow plug failure ■ Component fault - Glow plug control module failure	■ Refer to the electrical circuit diagrams and check the glow plug control circuit between the glow plug control module and the glow plug connector for short circuit to ground, check the power supply and ground connections to the glow plug control module, ensure that the harness is checked for intermittent faults. Repair harness as required. Refer to relevant section of workshop manual, check cylinder 6 glow plug for internal short circuit to ground. Replace glow plug if required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ If DTC resets suspect glow plug control module

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P0683-00	Glow Plug Control Module to PCM Communication Circuit - No sub type information	**NOTE:** Circuit reference - GLOWPLUG_CTRL ■ Harness fault - Engine control module to glow plug control module ■ Glow plug control module failure ■ Engine control module failure	■ This DTC is set when the data transmission on the control circuit between the engine control module and the glow plug control module has an error. Check for other related DTCs and refer to the relevant DTC index table. Refer to the electrical circuit diagrams and check the glowplug control signal line from the engine control module to the glow plug control module for faults such as intermittent open circuits, high resistance, short circuit to ground, short circuit to power. Check the glowplug monitor signal line from the glowplug control module to the engine control module for intermittent open circuits, high resistance, short circuit to ground, short circuit to power ■ Refer to the electrical circuit diagrams and check power and ground supplies to the glowplug control module. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ Check and install a new engine control module as required
P068A-00	ECM/PCM Power Relay De-Energized - Too Early - No sub type information	■ Vehicle battery disconnected before engine management system relay has powered down ■ Engine management system high current relay fault ■ Central junction box fault ■ Harness fault - relay control circuit	■ This DTC is set when the engine management system high current relay contacts open early - indicating a power hold fault. Check the vehicle battery has not been disconnected before the engine management system relay has powered down. Check the operation of the engine management system high current relay. Refer to the electrical circuit diagrams and check the engine management system high current relay supply and control circuits for open circuits, high resistance, short circuit to ground, short circuit to power, short circuit to other circuits. Repair the wiring harness ■ Check and install a new relay or central junction box as required
P06AF-00	Torque Management System - Forced Engine Shutdown - No sub type information	■ Injection cut off demand for shut off coordinator ■ The DTC sets when the engine speed has exceeded the hard engine speed limiter. When this DTC sets, a request to the shut-off coordinator is made for a reversible shut-off of the injection power stages, ensuring no injections take place. It gets reset when engine speed falls less than or equal to the hard limiter ■ Engine run away ■ Excessive injected fuel ■ Over boost from a turbocharger	■ Check for related engine control module DTCs and repair these first. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest
P0700-00	Transmission Control System (MIL Request) - No sub type information	■ MIL request by automatic gearbox	■ Check transmission control module for DTCs and refer to the relevant DTC index. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P0850-64	Park/Neutral Switch Input Circuit - Signal plausibility failure	**NOTE:** Circuit reference - PARK /NEUTRAL SW ■ The engine control module detected plausibility failures ■ Park neutral switch circuit short circuit to ground, short circuit to power, open circuit, high resistance	■ Refer to the electrical circuit diagrams and check the park neutral switch circuit between the engine control module and the transmission control module and control valve body for short circuit to ground, short circuit to power, open circuit, high resistance
P0A09-16	DC/DC Converter Status Circuit Low - Circuit voltage below threshold	■ The engine control module measured a voltage below a specified range but not necessarily a short circuit to ground ■ Engine control module power supply fault ■ Engine control module ground supply fault ■ Engine control module failure	■ Refer to the electrical circuit diagrams and check the engine control module power supply for open circuit. Repair wiring harness as required ■ Refer to the electrical circuit diagrams and check the engine control module ground supply for open circuit. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ Check and install a new engine control module as required
P0A0F-00	Engine Failed to Start - No sub type information	■ Engine control module has logged an extended crank with no engine start ■ Engine control module failure	■ Check for related engine control module DTCs and repair these first. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest. If this DTC remains alone suspect engine control module failure ■ Check and install a new engine control module as required
P0A0F-71	Engine Failed to Start - Actuator stuck	■ The engine control module has not detected any motion, in response to energizing a motor, solenoid or relay ■ Vehicle battery failure ■ Jammed starter motor	■ Refer to the battery care requirements, section 414-00 and verify that the vehicle battery is fully charged and serviceable before continuing with further diagnostic tests ■ Check for a jammed or damaged starter motor. Install a new starter motor as required
P0A10-17	DC/DC Converter Status Circuit High - Circuit voltage above threshold	■ The engine control module measured a voltage above a specified range but not necessarily a short circuit to power ■ Corrupt engine control module software ■ Engine control module power supply fault ■ Engine control module ground supply fault ■ Engine control module failure	■ Using the Jaguar Land Rover approved diagnostic system, re-configure the engine control module with the latest level software ■ Refer to the electrical circuit diagrams and check the engine control module power supply for open circuit. Repair wiring harness as required ■ Refer to the electrical circuit diagrams and check the engine control module ground supply for open circuit. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ Check and install a new engine control module as required

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P0A14-13	Engine Mount Control A Circuit/Open - Circuit open	**NOTE:** Circuit reference - AEM1 ■ The engine control module has determined an open circuit via lack of bias voltage, low current flow, no change in the state of an input in response to an output ■ Wiring harness fault - Active engine mount solenoid control circuit	■ Refer to the electrical circuit diagrams and check the engine mount A control circuit for open circuit. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest
P0A15-11	Engine Mount Control A Circuit Low - Circuit short to ground	**NOTE:** Circuit reference - AEM1 ■ The engine control module has detected a ground measurement for a period longer than expected or has detected a ground measurement when another value was expected ■ Wiring harness fault - Active engine mount solenoid control circuit	■ Refer to the electrical circuit diagrams and check the engine mount A control circuit for short circuit to ground. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest
P0A16-12	Engine Mount Control A Circuit High - Circuit short to battery	**NOTE:** Circuit reference - AEM1 ■ The engine control module has detected a vehicle power measurement for a period longer than expected or has detected a vehicle power measurement when another value was expected ■ Wiring harness fault - Active engine mount solenoid control circuit	■ Refer to the electrical circuit diagrams and check the engine mount A control circuit for short circuit to power. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest
P0A16-4B	Engine Mount Control A Circuit High - Over temperature	■ Active engine mount solenoid control circuit short circuit to ground, short circuit to power ■ Active engine mount solenoid control failure	■ Refer to the electrical circuit diagrams and check active engine mount solenoid control circuit for short circuit to ground, power. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ Check and install a new active engine mount solenoid as required

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P0A1A-00	Generator Control Module - No sub type information	■ Generator to engine control module LIN circuit, open circuit ■ Generator/engine control module failure	■ Check for good/clean contact at generator and engine control module LIN circuit connectors/pins. Refer to the electrical circuit diagrams and check generator to engine control module LIN circuit for open circuit. Check for engine control module hardware DTCs and refer to relevant DTC index. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest, repeat automated diagnostic procedure ■ Check and install a new generator/engine control module as required
P0A1A-87	Generator Control Module - Missing message	■ Generator to engine control module LIN circuit open circuit	■ Check for good/clean contact at generator and engine control module LIN circuit connectors/pins. Refer to the electrical circuit diagrams and check generator to engine control module LIN circuit for open circuit. Check for engine control module hardware DTCs and refer to relevant DTC index. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest, repeat automated diagnostic procedure
P0A3B-00	Generator Over Temperature - No sub type information	■ Generator wiring/connectors heat damaged ■ Generator circuit short circuit to ground, high resistance ■ Generator failure	■ Check the generator wiring and connectors for heat damage ■ Refer to the electrical circuit diagrams and check generator wiring for short circuit to ground, high resistance. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ Check and install a new generator as required
P0A94-00	DC/DC Converter Performance - No sub type information	■ Corrupt engine control module software ■ Engine control module power supply fault ■ Engine control module ground supply fault ■ Engine control module failure	■ Using the Jaguar Land Rover approved diagnostic system, re-configure the engine control module with the latest level software ■ Refer to the electrical circuit diagrams and check the engine control module power supply for open circuit. Repair wiring harness as required ■ Refer to the electrical circuit diagrams and check the engine control module ground supply for open circuit. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ Check and install a new engine control module as required

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P115A-00	Low Fuel Level - Forced Limited Power - No sub type information	■ Low level fuel condition ■ Critical fuel level switch signal circuit - Short circuit to ground, short circuit to power, open circuit ■ Critical fuel level switch failure ■ Fuel level sensor signal circuit - Short circuit to ground, short circuit to power, open circuit ■ Fuel level sensor failure	■ Check the fuel level, add fuel if required and clear the DTC ■ If there is sufficient fuel, refer to the electrical circuit diagrams and check the critical fuel level switch circuits for short, open circuit. Repair wiring harness as required ■ Check and install a new critical fuel level switch as required ■ If there is sufficient fuel, refer to the electrical circuit diagrams and check the fuel level sensor circuits for short, open circuit. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ Check and install a new fuel level sensor as required
P115A-68	Low Fuel Level - Forced Limited Power - Event information	■ The engine control module indicated the detection of a system event that was not caused by the engine control module itself but forced the engine control module to store the DTC e.g. missing functionality from another system or control module ■ Low level fuel condition ■ Critical fuel level switch signal circuit - Short circuit to ground, short circuit to power, open circuit ■ Critical fuel level switch failure ■ Fuel level sensor signal circuit - Short circuit to ground, short circuit to power, open circuit ■ Fuel level sensor failure	■ Check the fuel level, add fuel if required and clear the DTC ■ If there is sufficient fuel, refer to the electrical circuit diagrams and check the critical fuel level switch circuits for short, open circuit. Repair wiring harness as required ■ Check and install a new critical fuel level switch as required ■ If there is sufficient fuel, refer to the electrical circuit diagrams and check the fuel level sensor circuits for short, open circuit. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ Check and install a new fuel level sensor as required
P115B-00	Low Fuel Level - Forced Engine Shutdown - No sub type information	■ Low level fuel condition enabling run dry strategy ■ Critical fuel level switch signal circuit - Short circuit to ground, short circuit to power, open circuit ■ Critical fuel level switch failure ■ Fuel level sensor signal circuit - Short circuit to ground, short circuit to power, open circuit ■ Fuel level sensor failure	■ Check the fuel level, add fuel if required and clear the DTC ■ If there is sufficient fuel, refer to the electrical circuit diagrams and check the critical fuel level switch circuits for short, open circuit. Repair wiring harness as required ■ Check and install a new critical fuel level switch as required ■ If there is sufficient fuel, refer to the electrical circuit diagrams and check the fuel level sensor circuits for short, open circuit. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ Check and install a new fuel level sensor as required

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P115F-11	Electronic Control Module Cooling Fan Circuit - Circuit short to ground	**NOTE:** Circuit reference - EFC ■ The engine control module has detected a ground measurement for a period longer than expected or has detected a ground measurement when another value was expected ■ Harness fault - Engine control module cooling fan circuits ■ Cooling fan fault	■ Refer to the electrical circuit diagrams and check the engine control module cooling fan circuit for short circuit to ground. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ Check and install a new cooling fan as required
P115F-12	Electronic Control Module Cooling Fan Circuit - Circuit short to battery	**NOTE:** Circuit reference - EFC ■ The engine control module has detected a vehicle power measurement for a period longer than expected or has detected a vehicle power measurement when another value was expected ■ Harness fault - Engine control module cooling fan circuits	■ Refer to the electrical circuit diagrams and check the engine control module cooling fan circuit for short circuit to power. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest
P115F-13	Electronic Control Module Cooling Fan Circuit - Circuit open	**NOTE:** Circuit reference - EFC ■ The engine control module has determined an open circuit via lack of bias voltage, low current flow, no change in the state of an input in response to an output ■ Harness fault - Engine control module cooling fan circuits ■ Cooling fan fault	■ Refer to the electrical circuit diagrams and check the engine control module cooling fan circuit for open circuit. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ Check and install a new cooling fan as required
P115F-19	Electronic Control Module Cooling Fan Circuit - Circuit current above threshold	■ Engine control module cooling fan circuit short circuit to ground ■ Engine control module cooling fan failure or obstructed	■ Refer to the electrical circuit diagrams and check the engine control module cooling fan circuit for short circuit to ground. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ Check engine control module cooling fan for obstruction. Check and install a new engine control module cooling fan as required

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P120F-00	Fuel Pressure Regulator Excessive Variation - No sub type information	■ Fuel pressure regulator signal circuit short circuit to ground, short circuit to power, open circuit ■ Fuel pressure regulator VREF circuit high resistance ■ Fuel pressure regulator failure	■ Using the Jaguar Land Rover approved diagnostic system, check for fuel pump related DTCs ■ Refer to the electrical circuit diagrams and check the fuel pressure regulator signal circuit for short circuit to ground, short circuit to power, open circuit. Repair wiring harness as required ■ Refer to the electrical circuit diagrams and check the fuel pressure regulator VREF circuit for high resistance. Repair wiring harness as required, Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ Check and install a new Fuel pressure regulator as required
P1247-00	Turbocharger Boost Pressure Low - No sub type information	■ The boosting system is unable to build/control the boost pressure in the air induction system ■ Other related DTCs ■ Fuel injection related DTCs ■ Exhaust system leakage ■ Pre turbocharger ■ Excessive oil in the air induction system ■ Air induction system leakage ■ Charge air pressure sensor blocked ■ Charge air shut-off valve ■ Turbine intake shut-off valve ■ Turbocharger system/vanes mechanical integrity	■ If this DTC is logged with P00BE-00, suspect boost air recirculation solenoid stuck open in bi-turbo mode ■ If this DTC is logged with P00BC-00, suspect boost air solenoid stuck closed in bi-turbo mode ■ If this DTC is logged with P0235-94, P00BD-07, P22D2-77 & P22CF-71 suspect turbine intake solenoid stuck open ■ Check the vacuum system, Charge air shut-off valve and Turbine intake shut-off valve operation. **Refer to section 303-04B or 303-04D and perform pinpoint test A Vacuum Control System Tests** ■ If this DTC is logged with P006A-00, P0402-00 & P00BF-07 suspect air intake system, boost air system high pressure boost air leak on bank 1 ■ If this DTC is logged with P006A-00 suspect air intake system, boost air system high pressure boost air leak in bi-turbo mode on bank 2 ■ If this DTC is logged with P00BE-07 & P00BD-07 suspect variable geometry turbocharger compressor wheel seized ■ If this DTC is logged with P0235-94, P00BD-07, P22D2-77 & P22CF-71 suspect Air intake system, low pressure intake blocked or restricted
P1334-00	EGR Throttle Position Sensor Minimum /Maximum Stop Performance - No sub type information	■ Exhaust gas recirculation throttle position sensor circuit short circuit to ground, short circuit to power, high resistance, open circuit ■ Exhaust gas recirculation throttle position sensor failure ■ Engine control module failure	■ Refer to the electrical circuit diagrams and check exhaust gas recirculation throttle position sensor circuit for short circuit to ground, short circuit to power, high resistance, open circuit. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ Check and install a new exhaust gas recirculation throttle position sensor as required ■ Check and install a new engine control module as required

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P151B-00	Idle Speed Control - RPM Lower Than Expected - No sub type information	■ Indicated torque at idle < minimum	■ Using the Jaguar Land Rover approved diagnostic system, check for additional DTCs and refer to the relevant DTC index. Check engine oil level. Carry out cylinder compression tests. Check for mechanical failure of engine
P151C-00	Idle Speed Control - RPM Higher Than Expected - No sub type information	■ Indicated torque at idle > maximum	■ Using the Jaguar Land Rover approved diagnostic system, check for additional DTCs and refer to the relevant DTC index. Check engine oil level. Carry out cylinder compression tests. Check for mechanical failure of engine
P1551-32	Cylinder 1 Injector Circuit Range /Performance - Signal low time < minimum	■ Harness fault - Injector control circuit fault ■ Injector failure ■ Engine control module failure	■ This DTC is set when the engine control module detects that the injector signal low time is less than the minimum value. Check the injector wiring harness for damage caused by chaffing or heat. Refer to the electrical circuit diagrams and check the injector control circuits for intermittent faults, open circuits, short circuit to power, short circuit to ground, short circuit to other circuits. Repair wiring harness as required ■ If there are no wiring faults refer to the workshop manual and check the injector is to specification and has been installed correctly. Replace the injector as required ■ If there are no injector faults suspect the engine control module
P1551-35	Cylinder 1 Injector Circuit Range /Performance - Signal high time > maximum	■ Harness fault - Injector control circuit fault ■ Injector failure ■ Engine control module failure	■ This DTC is set when the engine control module detects that the injector signal low time is greater than the maximum value. Check the injector wiring harness for damage caused by chaffing or heat. Refer to the electrical circuit diagrams and check the injector control circuits for intermittent faults, open circuits, short circuit to power, short circuit to ground, short circuit to other circuits. Repair wiring harness as required ■ If there are no wiring faults refer to the workshop manual and check the injector is to specification and has been installed correctly. Replace the injector as required ■ If there are no injector faults suspect the engine control module
P1552-32	Cylinder 2 Injector Circuit Range /Performance - Signal low time < minimum	■ Harness fault - Injector control circuit fault ■ Injector failure ■ Engine control module failure	■ This DTC is set when the engine control module detects that the injector signal low time is less than the minimum value. Check the injector wiring harness for damage caused by chaffing or heat. Refer to the electrical circuit diagrams and check the injector control circuits for intermittent faults, open circuits, short circuit to power, short circuit to ground, short circuit to other circuits. Repair wiring harness as required ■ If there are no wiring faults refer to the workshop manual and check the injector is to specification and has been installed correctly. Replace the injector as required ■ If there are no injector faults suspect the engine control module

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P1552-35	Cylinder 2 Injector Circuit Range /Performance - Signal high time > maximum	■ Harness fault - Injector control circuit fault ■ Injector failure ■ Engine control module failure	■ This DTC is set when the engine control module detects that the injector signal low time is greater than the maximum value. Check the injector wiring harness for damage caused by chaffing or heat. Refer to the electrical circuit diagrams and check the injector control circuits for intermittent faults, open circuits, short circuit to power, short circuit to ground, short circuit to other circuits. Repair wiring harness as required ■ If there are no wiring faults refer to the workshop manual and check the injector is to specification and has been installed correctly. Replace the injector as required ■ If there are no injector faults suspect the engine control module
P1553-32	Cylinder 3 Injector Circuit Range /Performance - Signal low time < minimum	■ Harness fault - Injector control circuit fault ■ Injector failure ■ Engine control module failure	■ This DTC is set when the engine control module detects that the injector signal low time is less than the minimum value. Check the injector wiring harness for damage caused by chaffing or heat. Refer to the electrical circuit diagrams and check the injector control circuits for intermittent faults, open circuits, short circuit to power, short circuit to ground, short circuit to other circuits. Repair wiring harness as required ■ If there are no wiring faults refer to the workshop manual and check the injector is to specification and has been installed correctly. Replace the injector as required ■ If there are no injector faults suspect the engine control module
P1553-35	Cylinder 3 Injector Circuit Range /Performance - Signal high time > maximum	■ Harness fault - Injector control circuit fault ■ Injector failure ■ Engine control module failure	■ This DTC is set when the engine control module detects that the injector signal low time is greater than the maximum value. Check the injector wiring harness for damage caused by chaffing or heat. Refer to the electrical circuit diagrams and check the injector control circuits for intermittent faults, open circuits, short circuit to power, short circuit to ground, short circuit to other circuits. Repair wiring harness as required ■ If there are no wiring faults refer to the workshop manual and check the injector is to specification and has been installed correctly. Replace the injector as required ■ If there are no injector faults suspect the engine control module

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P1554-32	Cylinder 4 Injector Circuit Range /Performance - Signal low time < minimum	■ Harness fault - Injector control circuit fault ■ Injector failure ■ Engine control module failure	■ This DTC is set when the engine control module detects that the injector signal low time is less than the minimum value. Check the injector wiring harness for damage caused by chaffing or heat. Refer to the electrical circuit diagrams and check the injector control circuits for intermittent faults, open circuits, short circuit to power, short circuit to ground, short circuit to other circuits. Repair wiring harness as required ■ If there are no wiring faults refer to the workshop manual and check the injector is to specification and has been installed correctly. Replace the injector as required ■ If there are no injector faults suspect the engine control module
P1554-35	Cylinder 4 Injector Circuit Range /Performance - Signal high time > maximum	■ Harness fault - Injector control circuit fault ■ Injector failure ■ Engine control module failure	■ This DTC is set when the engine control module detects that the injector signal low time is greater than the maximum value. Check the injector wiring harness for damage caused by chaffing or heat. Refer to the electrical circuit diagrams and check the injector control circuits for intermittent faults, open circuits, short circuit to power, short circuit to ground, short circuit to other circuits. Repair wiring harness as required ■ If there are no wiring faults refer to the workshop manual and check the injector is to specification and has been installed correctly. Replace the injector as required ■ If there are no injector faults suspect the engine control module
P1555-32	Cylinder 5 Injector Circuit Range /Performance - Signal low time < minimum	■ Harness fault - Injector control circuit fault ■ Injector failure ■ Engine control module failure	■ This DTC is set when the engine control module detects that the injector signal low time is less than the minimum value. Check the injector wiring harness for damage caused by chaffing or heat. Refer to the electrical circuit diagrams and check the injector control circuits for intermittent faults, open circuits, short circuit to power, short circuit to ground, short circuit to other circuits. Repair wiring harness as required ■ If there are no wiring faults refer to the workshop manual and check the injector is to specification and has been installed correctly. Replace the injector as required ■ If there are no injector faults suspect the engine control module

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P1555-35	Cylinder 5 Injector Circuit Range /Performance - Signal high time > maximum	■ Harness fault - Injector control circuit fault ■ Injector failure ■ Engine control module failure	■ This DTC is set when the engine control module detects that the injector signal low time is greater than the maximum value. Check the injector wiring harness for damage caused by chaffing or heat. Refer to the electrical circuit diagrams and check the injector control circuits for intermittent faults, open circuits, short circuit to power, short circuit to ground, short circuit to other circuits. Repair wiring harness as required ■ If there are no wiring faults refer to the workshop manual and check the injector is to specification and has been installed correctly. Replace the injector as required ■ If there are no injector faults suspect the engine control module
P1556-32	Cylinder 6 Injector Circuit Range /Performance - Signal low time < minimum	■ Harness fault - Injector control circuit fault ■ Injector failure ■ Engine control module failure	■ This DTC is set when the engine control module detects that the injector signal low time is less than the minimum value. Check the injector wiring harness for damage caused by chaffing or heat. Refer to the electrical circuit diagrams and check the injector control circuits for intermittent faults, open circuits, short circuit to power, short circuit to ground, short circuit to other circuits. Repair wiring harness as required ■ If there are no wiring faults refer to the workshop manual and check the injector is to specification and has been installed correctly. Replace the injector as required ■ If there are no injector faults suspect the engine control module
P1556-35	Cylinder 6 Injector Circuit Range /Performance - Signal high time > maximum	■ Harness fault - Injector control circuit fault ■ Injector failure ■ Engine control module failure	■ This DTC is set when the engine control module detects that the injector signal low time is greater than the maximum value. Check the injector wiring harness for damage caused by chaffing or heat. Refer to the electrical circuit diagrams and check the injector control circuits for intermittent faults, open circuits, short circuit to power, short circuit to ground, short circuit to other circuits. Repair wiring harness as required ■ If there are no wiring faults refer to the workshop manual and check the injector is to specification and has been installed correctly. Replace the injector as required ■ If there are no injector faults suspect the engine control module

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P1575-00	Pedal Position Out Of Self Test Range - No sub type information	■ Brake pedal switch - Circuit Brake_SW_2 - Short circuit to power ■ Brake pedal switch - Circuit Brake_SW_2 - open circuit ■ Brake switch failure	■ Refer to the electrical circuit diagrams and check brake pedal switch - Circuit Brake_SW_2 - for short circuit to power ■ Refer to the electrical circuit diagrams and check brake pedal switch - Circuit Brake_SW_2 - for open circuit ■ Check and install a new brake switch as required. Clear the DTCs, drive the vehicle at greater than 11mph (17kph) with a throttle pedal greater than 10% for greater than 45 seconds. Press the brake pedal, using maximum travel for greater than 45 seconds, with the vehicle stationary, press the brake pedal using maximum travel for greater than 1 second
P1575-62	Pedal Position Out Of Self Test Range - Signal compare failure	■ The engine control module detected failure when comparing two or more input parameters for plausibility ■ Brake pedal switch - Circuit Brake_SW_2 - Short circuit to power ■ Brake pedal switch - Circuit Brake_SW_2 - Open circuit ■ Brake switch failure	■ Refer to the electrical circuit diagrams and check brake pedal switch - Circuit Brake_SW_2 - For short circuit to power ■ Refer to the electrical circuit diagrams and check brake pedal switch - Circuit Brake_SW_2 - For open circuit ■ Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the ‘Diagnosis Menu’ tab and retest ■ Drive the vehicle at greater than 11mph (17kph) with a throttle pedal greater than 10% for greater than 45 seconds. Press the brake pedal, using maximum travel for greater than 45 seconds, with the vehicle stationary, press the brake pedal using maximum travel for greater than 1 second ■ Check and install a new brake switch as required
P1627-16	Module Supply Voltage Out Of Range - Circuit voltage below threshold	■ The engine control module measured a voltage below a specified range but not necessarily a short circuit to ground ■ Vehicle battery fault ■ Charging system fault ■ Harness fault - Engine control module power or ground supply ■ Central junction box fault ■ Power distribution fault	■ Refer to the battery care requirements, section 414-00 and verify that the vehicle battery is fully charged and serviceable before continuing with further diagnostic tests ■ Check the vehicle charging system performance to ensure the voltage regulation is correct ■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, Control module voltage (0xF442). This DTC is set when the engine control module supply voltage is below the threshold value. Refer to the electrical circuit diagrams and check the four engine control module power ground circuits for high resistance or open circuits ■ Check the switched power supply feeds to the engine control module which come from the central junction box though the engine management system relay. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the ‘Diagnosis Menu’ tab and retest

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P1627-17	Module Supply Voltage Out Of Range - Circuit voltage above threshold	■ The engine control module measured a voltage above a specified range but not necessarily a short circuit to power ■ Vehicle battery fault ■ Charging system fault ■ Harness fault - Engine control module power or ground supply ■ Central junction box fault ■ Power distribution fault	■ Refer to the battery care requirements, section 414-00 and verify that the vehicle battery is fully charged and serviceable before continuing with further diagnostic tests ■ Check the vehicle charging system performance to ensure the voltage regulation is correct ■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, Control module voltage (0xF442). This DTC is set when the engine control module supply voltage is greater than the threshold value. Refer to the electrical circuit diagrams and check the four engine control module power ground circuits for high resistance or open circuits ■ Check the switched power supply feeds to the engine control module which come from the central junction box though the engine management system relay. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the ‘Diagnosis Menu’ tab and retest
P162F-00	Starter Motor Disabled - Engine Crank Time Too Long - No sub type information	■ Vehicle battery failure ■ Other starting related failures	■ Refer to the battery care requirements, section 414-00 and verify that the vehicle battery is fully charged and serviceable before continuing with further diagnostic tests ■ Using the Jaguar Land Rover approved diagnostic system, check the engine control module, for related DTCs and refer to the relevant DTC index ■ Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the ‘Diagnosis Menu’ tab and retest
P1631-00	Main Relay (power hold) - No sub type information	**NOTE:** Circuit reference - EMS_RELAY_CTRL ■ Vehicle battery disconnected before engine management system relay has powered down ■ Harness fault - relay control circuit ■ Engine management system high current relay fault ■ Central junction box fault ■ Harness fault - relay control circuit	■ This DTC is set when the engine management system high current relay contacts open early - indicating a power hold fault. Check the vehicle battery has not been disconnected before the engine management system relay has powered down. Check the operation of the engine management system high current relay ■ Refer to the electrical circuit diagrams and check the engine management system high current relay supply and control circuits for open circuits, high resistance, short circuit to ground, short circuit to power, short circuit to other circuits. Repair the wiring harness ■ Check and install a new relay as required ■ Check and install a new central junction box as required

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P1631-73	Main Relay (power hold) - Actuator stuck closed	**NOTE:** Circuit reference - EMS_RELAY_CTRL ■ The engine control module has not detected any motion, upon commanding the operation of a motor, solenoid or relay to open some piece of equipment ■ Engine management system high current relay fault ■ Harness fault - relay control circuit	■ This DTC is set when the engine management system high current relay contacts are detected stuck closed by the engine control module. Check the operation of the engine management system high current relay. Refer to the electrical circuit diagrams and check the engine management system high current relay supply and control circuits for open circuits, high resistance, short circuit to ground, short circuit to power, short circuit to other circuits. Repair the wiring harness ■ Check and install a new relay as required
P165D-01	Grill Shutter "A" Control Circuit - General electrical failure	■ Grill shutter actuator supply voltage falls outside the specified range ■ Grill shutter actuator internal circuit failure	■ Refer to the electrical circuit diagrams and check the grill shutter actuator circuits for short circuit to ground, short circuit to power, open circuit, high resistance. Repair harness as required ■ Using the Jaguar Land Rover approved diagnostic system, operate the grill shutter through the full operating range and check that the DTC does not reset ■ Check and install a new grill shutter actuator as required
P165D-07	Grill Shutter "A" Control Circuit - Mechanical failures	■ Grill shutter "A" actuator has become disconnected from the grill shutter ■ Linkage between the grill shutter "A" actuator and grill shutter has failed	■ Check all vanes within the grill shutter are connected to the grill shutter actuator. Repair as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the ‘Diagnosis Menu’ tab and retest ■ Using the Jaguar Land Rover approved diagnostic system, operate the grill shutter through the full operating range and check that the DTC does not reset ■ Check and install a new grill shutter as required
P165D-13	Grill Shutter "A" Control Circuit - Circuit open	■ Grill shutter "A" control circuit - Open circuit ■ Grill shutter actuator internal circuit failure	■ Refer to the electrical circuit diagrams and check the grill shutter actuator control circuit for open circuit. Repair harness as required ■ Check and install a new grill shutter actuator as required
P165D-4B	Grill Shutter "A" Control Circuit - Over temperature	■ The grill shutter actuator internal circuits are overheated	■ Check the grill shutter for damage, obstructions and blockages. Repair as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the ‘Diagnosis Menu’ tab and retest ■ Using the Jaguar Land Rover approved diagnostic system, operate the grill shutter through the full operating range and check that the DTC does not reset ■ Check and install a new grill shutter actuator as required

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P165D-87	Grill Shutter "A" Control Circuit - Missing message	■ The engine control module has not received the expected signal from the grill shutter "A" actuator ■ Grill shutter "A" control circuit - Open circuit ■ Grill shutter actuator internal circuit failure	■ Refer to the electrical circuit diagrams and check the grill shutter actuator control circuit for open circuit, high resistance. Repair harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the ‘Diagnosis Menu’ tab and retest ■ Check and install a new grill shutter actuator as required
P165D-97	Grill Shutter "A" Control Circuit - Component or system operation obstructed or blocked	■ The engine control module has detected that the operation of a component is prevented by an obstruction ■ Grill shutter damaged, obstructed or blocked ■ Grill shutter actuator has failed all calibration attempts	■ Check the grill shutter for damage, obstructions and blockages. Repair as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the ‘Diagnosis Menu’ tab and retest ■ Using the Jaguar Land Rover approved diagnostic system, operate the grill shutter through the full operating range and check that the DTC does not reset ■ Check and install a new grill shutter actuator as required
P1695-00	CAN Link Injection Pump Control Module /Engine Control Module - No sub type information	■ The engine control module internal powerstage is overheated	■ Check engine control module for DTCs and refer to the relevant DTC index. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the ‘Diagnosis Menu’ tab and retest ■ Check the engine control module is sufficiently able to be cooled
P1703-00	Brake Switch Out Of Self Test Range - No sub type information	■ Brake switch circuit, short circuit to ground, short circuit to power, high resistance, open circuit ■ Brake switch incorrect adjustment ■ Brake switch internal fault	■ Refer to the electrical circuit diagrams and check the brake switch for short to ground, short circuit to power, high resistance, open circuit. Repair wiring harness as required, Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the ‘Diagnosis Menu’ tab and retest ■ Check and adjust brake switch as required ■ Check and install a new brake switch as required
P1712-00	Transmission Torque Reduction Request Signal - No sub type information	■ Unintended torque request signal sent over CAN from transmission control module to engine control module. The engine control module recognises it is unintended and applies a torque limit and set the DTC	■ Check transmission control module for related DTCs and refer to relevant DTC index, Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the ‘Diagnosis Menu’ tab and retest

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P1719-68	Engine Torque Signal - Event information	■ The engine control module indicated the detection of a system event that was not caused by the engine control module itself but forced the engine control module to store the DTC e.g. missing functionality from another system or control module ■ Working limitation information ■ The DTC sets as a result of an engine torque limitation caused by an engine overheat situation	■ Check engine control module for related DTCs and refer to relevant DTC index ■ Refer to the workshop manual and check the cooling system is functioning correctly
P2002-68	Diesel Particulate Filter Efficiency Below Threshold (Bank 1) - Event information	■ The engine control module indicated the detection of a system event that was not caused by the engine control module itself but forced the engine control module to store the DTC e.g. missing functionality from another system or control module ■ Diesel particulate filter regeneration disabled by other DTCs logged	■ Using the Jaguar Land Rover approved diagnostic system, check for related DTCs and refer to the relevant DTC index. Carry out a diesel particulate filter regeneration
P2031-00	Exhaust Gas Temperature Sensor Circuit Bank 1 Sensor 2 - No sub type information	**NOTE:** Circuit reference - PFIT ■ Harness fault - Particulate filter inlet exhaust gas temperature sensor ■ Particulate filter inlet exhaust gas temperature sensor failure	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, Exhaust Gas Temperature Bank 1 Sensor 2 Voltage (0x03C4), Exhaust Gas Temperature Bank 1 Sensor 2 (0x03F5). This DTC is set if the particulate filter inlet exhaust gas temperature sensor fails a plausibility check at cold start. Refer to the workshop manual and check the particulate filter inlet exhaust gas temperature sensor and wiring harness for obvious signs of mechanical damage due to chaffing or heat. The particulate filter inlet exhaust gas temperature sensor is a thermistor located in the inlet to the particulate filter housing with a signal and ground connection. Refer to the electrical circuit diagrams and check the signal circuit for open circuit, short circuit to power, short circuit to ground, high resistance. Check the ground circuit for open circuit, high resistance, short circuit to power. Repair the wiring harness as required ■ If there are no wiring faults, refer to the workshop manual and check the sensor resistance value. Check and install a new sensor as required

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P2032-00	Exhaust Gas Temperature Sensor Circuit Low Bank 1 Sensor 2 - No sub type information	**NOTE:** Circuit reference - PFIT ■ Harness fault - Particulate filter inlet exhaust gas temperature sensor ■ Particulate filter inlet exhaust gas temperature sensor failure	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, Exhaust Gas Temperature Bank 1 Sensor 2 Voltage (0x03C4), Exhaust Gas Temperature Bank 1 Sensor 2 (0x03F5). This DTC is set if the particulate filter inlet exhaust gas temperature sensor fails a diagnostic check due to the circuit voltage being less than the expected value. Refer to the workshop manual and check the particulate filter inlet exhaust gas temperature sensor and wiring harness for obvious signs of mechanical damage due to chaffing or heat. The particulate filter inlet exhaust gas temperature sensor is a thermistor located in the inlet to the particulate filter housing with a signal and ground connection. Refer to the electrical circuit diagrams and check the signal circuit for open circuit, short circuit to power, short circuit to ground, high resistance. Check the ground circuit for open circuit, high resistance, short circuit to power. Repair the wiring harness as required ■ If there are no wiring faults, refer to the workshop manual and check the sensor resistance value. Check and install a new sensor as required
P2033-00	Exhaust Gas Temperature Sensor Circuit High Bank 1 Sensor 2 - No sub type information	**NOTE:** Circuit reference - PFIT ■ Harness fault - Particulate filter inlet exhaust gas temperature sensor ■ Particulate filter inlet exhaust gas temperature sensor failure	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, Exhaust Gas Temperature Bank 1 Sensor 2 Voltage (0x03C4), Exhaust Gas Temperature Bank 1 Sensor 2 (0x03F5). This DTC is set if the particulate filter inlet exhaust gas temperature sensor fails a diagnostic check due to the circuit voltage being greater than the expected value. Refer to the workshop manual and check the particulate filter inlet exhaust gas temperature sensor and wiring harness for obvious signs of mechanical damage due to chaffing or heat. The particulate filter inlet exhaust gas temperature sensor is a thermistor located in the inlet to the particulate filter housing with a signal and ground connection. Refer to the electrical circuit diagrams and check the signal circuit for open circuit, short circuit to power, short circuit to ground, high resistance. Check the ground circuit for open circuit, high resistance, short circuit to power. Repair the wiring harness as required ■ If there are no wiring faults, refer to the workshop manual and check the sensor resistance value. Check and install a new sensor as required

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P2080-00	Exhaust Gas Temperature Sensor Circuit Range /Performance Bank 1 Sensor 1 - No sub type information	**NOTE:** Circuit reference - STOT ■ Harness fault - Secondary turbo outlet temperature sensor ■ Secondary turbo outlet temperature sensor failure	■ This DTC is set when there is a plausibility error on the signal from the secondary turbo outlet temperature sensor. Refer to the workshop manual and check the secondary turbo outlet temperature sensor and wiring harness for obvious signs of mechanical damage due to chaffing or heat. The secondary turbo outlet temperature sensor is a thermistor with a signal and ground connection. Refer to the electrical circuit diagrams and check the signal circuit for open circuit, short circuit to power, short circuit to ground, high resistance. Check the ground circuit for open circuit, high resistance, short circuit to power. Repair the wiring harness as required ■ If there are no wiring faults, refer to the workshop manual and check the sensor resistance value. Check and install a new sensor as required
P2082-00	Exhaust Gas Temperature Sensor Circuit Range /Performance Bank 2 Sensor 1 - No sub type information	**NOTE:** Circuit reference STOT ■ Exhaust gas temperature sensor post turbocharger circuit, short circuit to ground, open circuit, high resistance ■ Exhaust gas temperature sensor post turbocharger failure	■ Refer to the electrical circuit diagrams and check exhaust gas temperature sensor post turbocharger circuit for short circuit to ground, open circuit, high resistance ■ Clear the DTC and retest ■ Check and install a new exhaust gas temperature sensor post turbocharger as required
P2084-00	Exhaust Gas Temperature Sensor Circuit Range /Performance Bank 1 Sensor 2 - No sub type information	**NOTE:** Circuit reference - PFIT ■ Harness fault - Close coupled catalyst outlet temperature sensor ■ Close coupled catalyst outlet temperature sensor failure	■ This DTC is set when there is a plausibility error on the signal from the close coupled catalyst outlet temperature sensor. Refer to the workshop manual and check the close coupled catalyst outlet temperature sensor and wiring harness for obvious signs of mechanical damage due to chaffing or heat. The close coupled catalyst outlet temperature sensor is a thermistor with a signal and ground connection. Refer to the electrical circuit diagrams and check the signal circuit for open circuit, short circuit to power, short circuit to ground, high resistance. Check the ground circuit for open circuit, high resistance, short circuit to power. Repair the wiring harness as required ■ If there are no wiring faults, refer to the workshop manual and check the sensor resistance value. Check and install a new sensor as required

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P2121-1F	Throttle/Pedal Position Sensor /Switch D Circuit Range /Performance - Circuit intermittent	**NOTE:** Circuit reference - PED_DEMAND_1 ■ Harness fault - Accelerator pedal position sensor circuit ■ Accelerator pedal position sensor failure	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, Accelerator Pedal Position D (0xF449), Pedal Position Sensor Voltage - Sensor 2 (0x0195). The accelerator pedal position sensor consists of two potentiometer circuits feeding independent pedal demand signals to the engine control module. This DTC is set when the engine control module detects noise on the pedal demand 1 signal circuit. Refer to the electrical circuit diagrams and check the reference voltage and ground connections to the accelerator pedal position sensor. Check signal circuits for high resistance, open circuits, short circuit to power, short circuit to ground. Check all accelerator pedal position sensor circuits for intermittent faults. Repair wiring as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ If there are no wiring faults suspect the accelerator pedal position sensor
P2122-00	Throttle/Pedal Position Sensor /Switch D Circuit Low - No sub type information	**NOTE:** Circuit reference - PED_DEMAND_1 ■ Harness fault - Accelerator pedal position sensor circuit ■ Accelerator pedal position sensor failure	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, Accelerator Pedal Position D (0xF449), Pedal Position Sensor Voltage - Sensor 2 (0x0915). The Accelerator Pedal Position sensor consists of two potentiometer circuits feeding independent pedal demand signals to the engine control module. This DTC is set when the engine control module detects the pedal demand 1 signal range is low. Refer to the electrical circuit diagrams and check the reference voltage and ground connections to the accelerator pedal position sensor. Check signal circuits for high resistance, open circuits, short circuit to power, short circuit to ground. Repair wiring as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ If there are no wiring faults suspect the accelerator pedal position sensor
P2123-00	Throttle/Pedal Position Sensor /Switch D Circuit High - No sub type information	**NOTE:** Circuit reference - PED_DEMAND_1 ■ Harness fault - Accelerator pedal position sensor circuit ■ Accelerator pedal position sensor failure	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, Accelerator Pedal Position D (0xF449), Pedal Position Sensor Voltage - Sensor 2 (0x0915). The Accelerator Pedal Position sensor consists of two potentiometer circuits feeding independent pedal demand signals to the engine control module. This DTC is set when the engine control module detects the pedal demand 1 signal range is high. Refer to the electrical circuit diagrams and check the reference voltage and ground connections to the accelerator pedal position sensor. Check signal circuits for high resistance, open circuits, short circuit to power, short circuit to ground. Repair wiring as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ If there are no wiring faults suspect the accelerator pedal position sensor

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P2126-1F	Throttle/Pedal Position Sensor /Switch E Circuit Range /Performance - Circuit intermittent	**NOTE:** Circuit reference - PED_DEMAND_2 ■ Harness fault - Accelerator pedal position sensor circuit ■ Accelerator pedal position sensor failure	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, Accelerator Pedal Position E (0xF44A), Pedal Position Sensor Voltage - Sensor 1 (0x0914). The Accelerator Pedal Position sensor consists of two potentiometer circuits feeding independent pedal demand signals to the engine control module. This DTC is set when the engine control module detects noise on the pedal demand 2 signal circuit. Refer to the electrical circuit diagrams and check the reference voltage and ground connections to the accelerator pedal position sensor. Check signal circuits for high resistance, open circuits, short circuit to power, short circuit to ground. Check all accelerator pedal position sensor circuits for intermittent faults. Repair wiring as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ If there are no wiring faults suspect the accelerator pedal position sensor
P2127-00	Throttle/Pedal Position Sensor /Switch E Circuit Low - No sub type information	**NOTE:** Circuit reference - PED_DEMAND_2 ■ Harness fault - Accelerator pedal position sensor circuit ■ Accelerator pedal position sensor failure	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, Accelerator Pedal Position E (0xF44A), Pedal Position Sensor Voltage - Sensor 1 (0x0914). The Accelerator Pedal Position sensor consists of two potentiometer circuits feeding independent pedal demand signals to the engine control module. This DTC is set when the engine control module detects the pedal demand 2 signal range is low. Refer to the electrical circuit diagrams and check the reference voltage and ground connections to the accelerator pedal position sensor. Check signal circuits for high resistance, open circuits, short circuit to power, short circuit to ground. Repair wiring as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ If there are no wiring faults suspect the accelerator pedal position sensor
P2128-00	Throttle/Pedal Position Sensor /Switch E Circuit High - No sub type information	**NOTE:** Circuit reference - PED_DEMAND_2 ■ Harness fault - Accelerator pedal position sensor circuit ■ Accelerator pedal position sensor failure	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, Accelerator Pedal Position E (0xF44A), Pedal Position Sensor Voltage - Sensor 1 (0x0914). The Accelerator Pedal Position sensor consists of two potentiometer circuits feeding independent pedal demand signals to the engine control module. This DTC is set when the engine control module detects the pedal demand 2 signal range is high. Refer to the electrical circuit diagrams and check the reference voltage and ground connections to the accelerator pedal position sensor. Check signal circuits for high resistance, open circuits, short circuit to power, short circuit to ground. Repair wiring as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ If there are no wiring faults suspect the accelerator pedal position sensor

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P2138-00	Throttle/Pedal Position Sensor /Switch D/E Voltage Correlation - No sub type information	■ Accelerator pedal position sensor circuit short circuit to ground, short circuit to power, open circuit ■ Accelerator pedal position sensor failure	■ Refer to the electrical circuit diagrams and check accelerator pedal position sensor 1 circuit for short circuit to ground, short circuit to power, open circuit. Refer to the electrical circuit diagrams and check accelerator pedal position sensor 2 circuit for short circuit to ground, short circuit to power, open circuit. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ Check and install a new accelerator pedal position sensor as required
P2138-64	Throttle/Pedal Position Sensor /Switch D/E Voltage Correlation - Signal plausibility failure	■ The engine control module detected plausibility failures ■ Accelerator pedal position sensor circuit short circuit to ground, short circuit to power, open circuit ■ Accelerator pedal position sensor failure	■ Refer to the electrical circuit diagrams and check accelerator pedal position sensor 1 circuit for short circuit to ground, short circuit to power, open circuit. Refer to the electrical circuit diagrams and check accelerator pedal position sensor 2 circuit for short circuit to ground, short circuit to power, open circuit. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ Check and install a new accelerator pedal position sensor as required
P2138-67	Throttle/Pedal Position Sensor /Switch D/E Voltage Correlation - Signal incorrect after event	■ Accelerator pedal position sensor circuit short circuit to ground, short circuit to power, open circuit ■ Accelerator pedal position sensor failure	■ Refer to the electrical circuit diagrams and check accelerator pedal position sensor 1 circuit for short circuit to ground, short circuit to power, open circuit. Refer to the electrical circuit diagrams and check accelerator pedal position sensor 2 circuit for short circuit to ground, short circuit to power, open circuit. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ Check and install a new accelerator pedal position sensor as required
P213E-01	Fuel Injection System Fault - Forced Engine Shutdown - General electrical failure	■ Other fuel/injector related DTCs	■ Check for fuel/injector related DTCs and repair these first. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest
P2141-00	Exhaust Gas Recirculation Throttle Control Circuit A Low - No sub type information	■ Harness fault - Intake air shut off throttle control circuit ■ Intake air shut off throttle failure	■ This DTC is set when the engine control module detects a short circuit to ground on the intake air shut off throttle control circuit. Refer to the electrical circuit diagrams and check both the throttle plate actuator control circuits for short circuit to ground. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ If no fault found in wiring harness suspect intake air shut off throttle control actuator failure

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P2142-00	Exhaust Gas Recirculation Throttle Control Circuit A High - No sub type information	■ Harness fault - Intake air shut off throttle control circuit ■ Intake air shut off throttle failure	■ This DTC is set when the engine control module detects a short circuit to power on the intake air shut off throttle control circuit. Refer to the electrical circuit diagrams and check both the throttle plate actuator control circuits for short circuit to power. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ If no fault found in wiring harness suspect intake air shut off throttle control actuator failure
P2177-00	System Too Lean Off Idle - Bank 1 - No sub type information	■ Oxygen concentration implausibly high ■ Pre-catalyst oxygen sensor circuit short circuit to ground, short circuit to power, high resistance, open circuit ■ Pre-catalyst oxygen sensor failure	■ Check for excess fuel at exhaust manifold, downpipe, pre-catalyst oxygen sensor ■ Check for fuel/injector related DTCs and repair these first. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ Refer to the electrical circuit diagrams and check pre-catalyst oxygen sensor for short circuit to ground, high resistance, open circuit. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ Check and install a new pre-catalyst oxygen sensor as required
P2178-00	System Too Rich Off Idle - Bank 1 - No sub type information	■ Oxygen concentration implausibly low ■ Pre-catalyst oxygen sensor circuit short circuit to ground, short circuit to power, high resistance, open circuit ■ Pre-catalyst oxygen sensor failure	■ Check for air leaks at exhaust manifold, downpipe, pre-catalyst oxygen sensor ■ Check for fuel/injector related DTCs and repair these first ■ Refer to the electrical circuit diagrams and check pre-catalyst oxygen sensor for short circuit to ground, high resistance, open circuit. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ Check and install a new pre-catalyst oxygen sensor as required
P2191-00	System Too Lean at Higher Load - Bank 1 - No sub type information	■ Oxygen concentration implausibly high ■ Pre-catalyst oxygen sensor circuit short circuit to ground, short circuit to power, high resistance, open circuit ■ Pre-catalyst oxygen sensor failure	■ Check for excess fuel at exhaust manifold, downpipe, pre-catalyst oxygen sensor ■ Check for fuel/injector related DTCs and repair these first ■ Refer to the electrical circuit diagrams and check pre-catalyst oxygen sensor for short circuit to ground, high resistance, open circuit. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ Check and install a new pre-catalyst oxygen sensor as required

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P2192-00	System Too Rich at Higher Load - Bank 1 - No sub type information	■ Oxygen concentration implausibly low ■ Pre-catalyst oxygen sensor circuit short circuit to ground, short circuit to power, high resistance, open circuit ■ Pre-catalyst oxygen sensor failure	■ Check for air leaks at exhaust manifold, downpipe, pre-catalyst oxygen sensor ■ Check for fuel/injector related DTCs and repair these first ■ Refer to the electrical circuit diagrams and check pre-catalyst oxygen sensor for short circuit to ground, high resistance, open circuit. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ Check and install a new pre-catalyst oxygen sensor as required
P2195-00	O2 Sensor Signal Biassed /Stuck Lean - Bank 1, Sensor 1 - No sub type information	■ Air leak at exhaust manifold, downpipe, pre-catalyst oxygen sensor bank 1 ■ Pre-catalyst oxygen sensor circuit short circuit to ground, short circuit to power, high resistance, open circuit ■ Pre-catalyst oxygen sensor failure	■ Check for fuel/injector related DTCs and repair these first ■ Refer to the electrical circuit diagrams and check pre-catalyst oxygen sensor for short circuit to ground, high resistance, open circuit. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ Check for air leaks at exhaust manifold, downpipe, pre-catalyst oxygen sensor. Check and install a new pre-catalyst oxygen sensor as required
P2196-00	O2 Sensor Signal Biassed /Stuck Rich - Bank 1, Sensor 1 - No sub type information	■ Fuel injection system fault ■ Pre-catalyst oxygen sensor circuit short circuit to ground, short circuit to power, high resistance, open circuit ■ Pre-catalyst oxygen sensor failure	■ Check for fuel/injector related DTCs and repair these first ■ Refer to the electrical circuit diagrams and check pre-catalyst oxygen sensor for short circuit to ground, high resistance, open circuit. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ Check for air leaks at exhaust manifold, downpipe, pre-catalyst oxygen sensor. Check and install a new pre-catalyst oxygen sensor as required
P2226-62	Barometric Pressure Sensor A Circuit - Signal compare failure	■ The engine control module detected failure when comparing two or more input parameters for plausibility ■ The engine control module has been submersed in water or mud ■ The engine control module has been sealed in a non approved covering	■ Check the engine control module is clean and dry ■ Check the engine control module is not sealed by any non approved covering ■ If the DTC does not clear install a new engine control module as required

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P2228-00	Barometric Pressure Sensor A Circuit Low - No sub type information	■ Corrupt engine control module software ■ Engine control module power supply fault ■ Engine control module ground supply fault ■ Engine control module failure	■ Using the Jaguar Land Rover approved diagnostic system, re-configure the engine control module with the latest level software ■ Refer to the electrical circuit diagrams and check engine control module power supply circuits for open circuit. Repair wiring harness as required ■ Refer to the electrical circuit diagrams and check engine control module ground supply circuits for open circuit. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ Check and install a new engine control module as required
P2229-00	Barometric Pressure Sensor A Circuit High - No sub type information	■ Corrupt engine control module software ■ Engine control module power supply fault ■ Engine control module ground supply fault ■ Engine control module failure	■ Using the Jaguar Land Rover approved diagnostic system, re-configure the engine control module with the latest level software ■ Refer to the electrical circuit diagrams and check engine control module power supply circuits for open circuit. Repair wiring harness as required ■ Refer to the electrical circuit diagrams and check engine control module ground supply circuits for open circuit. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ Check and install a new engine control module as required
P2238-00	O2 Sensor Positive Current Control Circuit Low - Bank 1, Sensor 1 - No sub type information	■ Pre-catalyst oxygen sensor positive current control circuit short circuit to ground, high resistance, open circuit ■ Pre-catalyst oxygen sensor failure	■ Refer to the electrical circuit diagrams and check pre-catalyst oxygen sensor for short circuit to ground, high resistance, open circuit. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ Check and install a new pre-catalyst oxygen sensor as required
P2245-00	O2 Sensor Reference Voltage Circuit Low - Bank 1, Sensor 1 - No sub type information	**NOTE:** Circuit reference - LPV_A ■ Harness fault - Pre-catalyst oxygen sensor circuit ■ Oxygen sensor failure	■ This DTC is set if the engine control module detects the bank 1, pre-catalyst oxygen sensor 1 reference voltage is lower than expected. Refer to the electrical circuit diagrams and check the pre-catalyst oxygen sensor harness for signs of damage caused by chaffing or heat. Check the pre-catalyst oxygen sensor circuits for open circuits, high resistance, short circuit to ground. Repair wiring as required, Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ If there are no wiring faults suspect the pre-catalyst oxygen sensor

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P2246-00	O2 Sensor Reference Voltage Circuit High - Bank 1, Sensor 1 - No sub type information	**NOTE:** Circuit reference - LPV_A ■ Harness fault - Pre-catalyst oxygen sensor circuit ■ Oxygen sensor failure	■ This DTC is set if the engine control module detects the bank 1, pre-catalyst oxygen sensor 1 reference voltage is greater than expected. Refer to the electrical circuit diagrams and check the pre-catalyst oxygen sensor harness for signs of damage caused by chaffing or heat. Check the pre-catalyst oxygen sensor circuits for open circuits, high resistance, short circuit to power. Repair wiring as required, Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ If there are no wiring faults suspect the pre-catalyst oxygen sensor
P2261-73	Turbocharger /Supercharger Bypass Valve "A" - Mechanical - Actuator stuck closed	■ The engine control module has not detected any motion, upon commanding the operation of a motor, solenoid or relay to open some piece of equipment ■ Boost air recirculation solenoid stuck shut during transition from mono turbo to bi-turbo mode	■ This DTC is set when the engine control module detects that the turbocharger bypass valve is not operating ■ Check the vacuum system, Charge air shut-off valve and Turbine intake shut-off valve operation. **Refer to section 303-04B or 303-04D and perform pinpoint test A Vacuum Control System Tests**
P2263-21	Turbocharger /Supercharger Boost System Performance - Signal amplitude < minimum	■ The engine control module measured a signal voltage below a specified range but not necessarily a short circuit to ground, gain low ■ Induction system air leak or blockage ■ Boost air system leak or blockage ■ Manifold absolute pressure sensor circuit short circuit to power, ground, open circuit ■ Manifold absolute pressure sensor failure ■ Variable geometry turbocharger actuator sticking, failure ■ Variable geometry turbocharger failure	■ Check induction system for leaks, blockages ■ Check boost air system for leaks, blockages. Check for related DTCs ■ Refer to the electrical circuit diagrams and check manifold absolute pressure sensor circuit for short circuit to power, ground, open circuit ■ Check and install a new manifold absolute pressure sensor as required ■ Check turbocharger rod connection and oil seals ■ Check and install a new variable geometry turbocharger actuator as required. Check install a new turbocharger as required

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION

P2263-22	Turbocharger /Supercharger Boost System Performance - Signal amplitude > maximum	■ Electrical Cause
		  ■ Yes
		■ Mechanical Cause
		  ■ Yes
		■ Prioritised List of Possible Causes
		■ Electronic throttle sticking, excessive debris
		■ Variable geometry turbocharger actuator sticking, failure
		■ Charge air system failures
		  ■ Incorrectly installed hoses
		  ■ Leakage
		  ■ Blockage
		  ■ Variable geometry turbocharger
		  ■ Turbocharger pressure sensor
		■ Vacuum system failures
		  ■ Engine mounts
		  ■ Plug of the vacuum line
		  ■ Actuator - Capsule vacuum engine system
		■ Crankcase breather and oil separator stub
		■ Manifold absolute pressure sensor circuit short circuit to power, ground, open circuit
		■ Manifold absolute pressure sensor failure
			■ Prioritised Checks to Perform
			■ Refer to the corresponding bulletins and SSMs which may be valid for the specific customer complaint and carry out the recommendations as required
			■ Check electronic throttle for sticking, excessive debris preventing blade movement
			■ Using the Jaguar Land Rover approved diagnostic system, perform routine - Inline diagnostic unit 2 diagnostic test - Turbocharger
			■ Follow Pinpoint Test A: Vacuum Control System Tests - Twin Turbo Variants Only. Refer to section 303-04B Fuel Charging and Controls - Turbocharger
			■ Using the Jaguar Land Rover approved diagnostic system, perform smoke checks on the following systems
			  ■ Charge air system
			  ■ Vacuum system
			  ■ Exhaust system
			  ■ Air intake system
			■ Check crankcase breather and oil separator stub
			■ Refer to the electrical circuit diagrams and check manifold absolute pressure sensor circuit for short circuit to power, ground, open circuit
			■ Check and install a new manifold absolute pressure sensor as required

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P2264-00	Water in Fuel Sensor Circuit - No sub type information	**NOTE:** Circuit reference - WIF_SENSOR ■ Fuel supply incorrect/contaminated ■ Harness fault - Water in fuel sensor circuit ■ Water in fuel sensor fault ■ Central junction box power distribution fault	■ This DTC is set if the engine control module receives information indicating an implausible fuel level. Refer to the workshop manual and check the fuel system to ensure there is an adequate fuel level in the tank and the system is not leaking fuel or suffering from air ingress. Check the fuel for contamination by other fluids (petrol or water etc) ■ Refer to the electrical wiring diagrams and check the water in fuel sensor signal circuit between the sensor and the engine control module for high resistance, open circuit, short circuit to ground, short circuit to power, intermittent faults. Repair the wiring harness as required ■ If there are no wiring faults suspect the water in fuel sensor ■ Refer to the electrical wiring diagrams and check the water in fuel sensor power supply from the central junction box for high resistance, open circuit, short circuit to ground. Check the water in fuel sensor ground supply circuit for high resistance, open circuit, short circuit to power. Check the voltage supply from the central junction box, check and replace fuses as required. Replace central junction box if there is no voltage supply to the water in fuel sensor
P2269-68	Water in Fuel Condition - Event information	■ The engine control module indicated the detection of a system event that was not caused by the engine control module itself but forced the engine control module to store the DTC e.g. missing functionality from another system or control module ■ Water in fuel ■ Water in fuel sensor circuit short circuit to power, open circuit ■ Water in fuel sensor failure	■ Drain water from fuel filter housing. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the ‘Diagnosis Menu’ tab and retest, wait 30 seconds and re-check DTC has cleared ■ Refer to the electrical circuit diagrams and check water in fuel sensor circuit for short circuit to power, open circuit ■ Check and install a new water in fuel sensor as required
P226B-00	Turbocharger /Supercharger Boost Pressure Too High - Mechanical - No sub type information	■ Error path indicating whether over boost shut down is active or not ■ This DTC is set when overboost shut down is active. This means that the vehicle has lost control of boost. The engine is shut down as a safety precaution. The engine control module checks for an overboost by system monitoring and also monitors vehicle acceleration, if in gear and engine acceleration at idle, if in neutral	■ Check for turbocharging related DTCs and repair these first. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the ‘Diagnosis Menu’ tab and retest

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P228C-00	Fuel Pressure Regulator 1 Exceeded Control Limits - Pressure Too Low - No sub type information	■ Fuel pressure control valve, fuel leak from the high pressure side ■ Fuel injector stuck open/leaking ■ Blocked fuel filter ■ Low pressure fuel pipe leaking from the fuel tank fuel pump ■ Fuel supply system fault ■ Harness fault - Fuel rail pressure sensor A circuit high resistance ■ Fuel rail pressure sensor A failure ■ Fuel lift pump failure	■ Check fuel pressure control valve for fuel leakage from the high pressure side ■ Check for fuel injector stuck open/leaking ■ Check for blocked fuel filter ■ Check for low pressure fuel pipe leakage from the fuel tank fuel pump ■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, Fuel Rail Pressure Sensor (0x0324), Fuel Rail Pressure (0xF423). Check for related fuel system DTCs and refer to the relevant DTC index ■ Refer to the electrical circuit diagrams and check fuel pump circuit for high resistance. Check fuel rail pressure sensor A circuit for high resistance ■ Check and install a new fuel rail pressure sensor A as required ■ Check and install a new fuel lift pump as required
P2297-00	O2 Sensor Out of Range During Deceleration Bank 1, Sensor 1 - No sub type information	■ Pre-catalyst oxygen sensor circuit short circuit to ground, short circuit to power, high resistance, open circuit ■ Pre-catalyst oxygen sensor failure	■ Check for fuel/injector related DTCs and repair these first. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the ‘Diagnosis Menu’ tab and retest. Refer to the electrical circuit diagrams and check pre-catalyst oxygen sensor for short circuit to ground, high resistance, open circuit. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the ‘Diagnosis Menu’ tab and retest ■ Check and install a new pre-catalyst oxygen sensor as required

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P2299-68	Brake Pedal Position /Accelerator Pedal Position Incompatible - Event information	■ The engine control module indicated the detection of a system event that was not caused by the engine control module itself but forced the engine control module to store the DTC e.g. missing functionality from another system or control module ■ Brake pedal switch - Circuit Brake_SW_1 - Short circuit to ground ■ Brake pedal switch - Circuit Brake_SW_1 - open circuit ■ Brake pedal switch - Circuit Brake_SW_2 - Short circuit to ground ■ Brake pedal switch incorrect adjustment ■ Brake pedal switch failure ■ Brake pedal pressed by driver at same time as accelerator pedal pressed	■ Refer to the electrical circuit diagrams and check brake pedal switch - Circuit Brake_SW_1 - for short circuit to ground ■ Refer to the electrical circuit diagrams and check brake pedal switch - Circuit Brake_SW_1 - for open circuit ■ Refer to the electrical circuit diagrams and check brake pedal switch - Circuit Brake_SW_2 - for short circuit to ground ■ Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest. Start the engine press the brake pedal, using maximum travel for greater than 1 second taking care not to press the accelerator pedal. Check the system is operating correctly and the DTC does not return ■ Check and adjust brake switch as required ■ Check and install a new brake pedal switch as required ■ Clear the DTCs, drive the vehicle at greater than 11mph (17kph) with a throttle pedal greater than 10% for greater than 45 seconds. Press the brake pedal, using maximum travel for greater than 45 seconds. Check the system is operating correctly and the DTC does not return
P22C5-11	Turbocharger Compressor Outlet Valve Control Circuit /Open - Circuit short to ground	**NOTE:** Circuit reference - CSOV ■ The engine control module has detected a ground measurement for a period longer than expected or has detected a ground measurement when another value was expected ■ Harness fault - Turbocharger boost air solenoid circuit short circuit to ground	■ Refer to the electrical circuit diagrams and check the turbocharger boost air solenoid circuit between the engine control module and the control valve for a short circuit to ground. Check power supply to the control valve. Repair any wiring faults found. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest
P22C5-12	Turbocharger Compressor Outlet Valve Control Circuit /Open - Circuit short to battery	**NOTE:** Circuit reference - CSOV ■ The engine control module has detected a vehicle power measurement for a period longer than expected or has detected a vehicle power measurement when another value was expected ■ Harness fault - Turbocharger boost air solenoid circuit short circuit to power ■ Turbocharger boost air solenoid fault	■ Refer to the electrical circuit diagrams and check the turbocharger boost air solenoid circuit between the engine control module and the control valve for a short circuit to power. Check power supply to the control valve. Repair any wiring faults found. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ If no fault found in wiring harness suspect turbocharger boost air solenoid failure

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P22C5-13	Turbocharger Compressor Outlet Valve Control Circuit /Open - Circuit open	**NOTE:** Circuit reference - CSOV ■ The engine control module has determined an open circuit via lack of bias voltage, low current flow, no change in the state of an input in response to an output ■ Harness fault - Turbocharger boost air solenoid circuit open circuit ■ Turbocharger boost air solenoid fault	■ Refer to the electrical circuit diagrams and check the turbocharger boost air solenoid circuit between the engine control module and the control valve for open circuit. Check power supply to the control valve. Repair any wiring faults found. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ If no fault found in wiring harness suspect turbocharger boost air solenoid failure
P22C5-4B	Turbocharger Compressor Outlet Valve Control Circuit /Open - Over temperature	■ Harness fault - Turbocharger boost air solenoid circuit open circuit ■ Turbocharger boost air solenoid failure	■ Refer to the electrical circuit diagrams and check the turbocharger boost air solenoid circuit between the engine control module and the control valve for open circuit. Check power supply to the control valve. Repair any wiring faults found. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ If no fault found in wiring harness suspect turbocharger boost air solenoid failure. Check and install a new turbocharger boost air solenoid as required
P22CF-00	Turbocharger Turbine Inlet Valve Control Circuit/Open - No sub type information	**NOTE:** Circuit reference - TSOV ■ Harness fault - Turbine intake solenoid circuit open circuit ■ Turbine intake solenoid fault	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, Turbo Shut Off Valve Opening Position - Commanded (0x03F0). Refer to the electrical circuit diagrams and check the turbine intake solenoid circuit between the engine control module and the control valve for open circuit. Check power supply to the control valve. Repair any wiring faults found. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ If no fault found in wiring harness suspect turbine intake solenoid failure
P22CF-16	Turbocharger Turbine Inlet Valve Control Circuit/Open - Circuit voltage below threshold	**NOTE:** Circuit reference - TSOV ■ The engine control module measured a voltage below a specified range but not necessarily a short circuit to ground ■ Harness fault - Turbine intake solenoid circuit fault ■ Turbine intake solenoid fault	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, Turbo Shut Off Valve Opening Position - Commanded (0x03F0). Refer to the electrical circuit diagrams and check the turbine intake solenoid circuit between the engine control module and the control valve for a high resistance, intermittent open circuit, short circuit to ground. Check power supply to the control valve. Repair any wiring faults found. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ If no fault found in wiring harness suspect turbine intake solenoid failure

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P22CF-19	Turbocharger Turbine Inlet Valve Control Circuit/Open - Circuit current above threshold	■ Harness fault - Turbine intake solenoid circuit fault ■ Turbine intake solenoid fault	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, Turbo Shut Off Valve Opening Position - Commanded (0x03F0). Refer to the electrical circuit diagrams and check the turbine intake valve control circuit for short circuit to ground. Check power supply to the solenoid. Repair any wiring faults found. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ If no fault found in wiring harness suspect turbine intake solenoid failure
P22CF-1D	Turbocharger Turbine Inlet Valve Control Circuit/Open - Circuit current out of range	**NOTE:** Circuit reference - TSOV ■ Harness fault - Turbine intake solenoid circuit fault ■ Turbine intake solenoid fault	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, Turbo Shut Off Valve Opening Position - Commanded (0x03F0). Refer to the electrical circuit diagrams and check the turbine intake solenoid control circuit for short circuit to ground. Check power supply to the solenoid. Repair any wiring faults found. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ If no fault found in wiring harness suspect turbine intake solenoid failure
P22CF-4B	Turbocharger Turbine Inlet Valve Control Circuit/Open - Over temperature	■ Harness fault - Turbine intake solenoid circuit fault ■ Turbine intake solenoid fault	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, Turbo Shut Off Valve Opening Position - Commanded (0x03F0). Refer to the electrical circuit diagrams and check the turbine intake valve control circuit for short circuit to ground. Check power supply to the solenoid. Repair any wiring faults found. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ If no fault found in wiring harness suspect turbine intake solenoid failure
P22CF-71	Turbocharger Turbine Inlet Valve Control Circuit/Open - Actuator stuck	■ The engine control module has not detected any motion, in response to energizing a motor, solenoid or relay ■ Turbine intake shut-off valve position sensor failure ■ Turbine intake shut-off valve failure	■ If this DTC is logged with P22D3-77 & P00BC-00 suspect, turbine intake solenoid sticking closed ■ If this DTC is logged with P0235-94, P00BD-07, P22D2-77 & P1247-00 suspect, turbine intake solenoid sticking open ■ Check the vacuum system, Charge air shut-off valve and Turbine intake shut-off valve operation. **Refer to section 303-04B or 303-04D and perform pinpoint test A Vacuum Control System Tests** ■ If this DTC is logged with P00BD-07, P22D2-77, P1247-00 & P0235-94 suspect, intake air system, blocked low pressure air intake ■ Using the Jaguar Land Rover Approved Diagnostic Equipment, perform the (Turbo, EGR and air path dynamic test) routine

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P22D0-00	Turbocharger Turbine Inlet Valve Control Circuit Low - No sub type information	**NOTE:** Circuit reference - TSOV ■ Harness fault - Turbine intake solenoid circuit fault ■ Turbine intake solenoid failure	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, Turbo Shut Off Valve Opening Position - Commanded (0x03F0). Refer to the electrical circuit diagrams and check the turbine intake solenoid control circuit for short circuit to ground. Check power supply to the solenoid. Repair any wiring faults found. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ If no fault found in wiring harness suspect turbine intake solenoid failure
P22D0-11	Turbocharger Turbine Inlet Valve Control Circuit Low - Circuit short to ground	**NOTE:** Circuit reference - TSOV ■ The engine control module has detected a ground measurement for a period longer than expected or has detected a ground measurement when another value was expected ■ Harness fault - Turbine intake solenoid bank 2 circuit short circuit to ground ■ Turbine intake solenoid failure	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, Turbo Shut Off Valve Opening Position - Commanded (0x03F0). Refer to the electrical circuit diagrams and check the turbine intake solenoid control circuit on bank 2 for short circuit to ground. Check power supply to the solenoid. Repair any wiring faults found. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ If no fault found in wiring harness suspect turbine intake solenoid failure
P22D0-12	Turbocharger Turbine Inlet Valve Control Circuit Low - Circuit short to battery	**NOTE:** Circuit reference - TSOV ■ The engine control module has detected a vehicle power measurement for a period longer than expected or has detected a vehicle power measurement when another value was expected ■ Harness fault - Turbine intake solenoid bank 2 circuit short circuit to power ■ Turbine intake solenoid failure	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, Turbo Shut Off Valve Opening Position - Commanded (0x03F0). Refer to the electrical circuit diagrams and check the turbine intake solenoid control circuit on bank 2 for short circuit to power. Check power supply to the solenoid. Repair any wiring faults found. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ If no fault found in wiring harness suspect turbine intake solenoid failure
P22D1-00	Turbocharger Turbine Inlet Valve Control Circuit High - No sub type information	**NOTE:** Circuit reference - TSOV ■ Harness fault - Turbine intake solenoid circuit short circuit to power ■ Turbine intake solenoid failure	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, Turbo Shut Off Valve Opening Position - Commanded (0x03F0). Refer to the electrical circuit diagrams and check the turbine intake solenoid control circuit for short circuit to power. Check power supply to the solenoid. Repair any wiring faults found. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ If no fault found in wiring harness suspect turbine intake solenoid failure

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P22D2-77	Turbocharger Turbine Inlet Valve Stuck Open - Commanded position not reachable	■ The engine control module is unable to command a motor, solenoid or relay, to move a piece of equipment to the commanded position either due to a failure in the actuator or its mechanical environment	■ Using the Jaguar Land Rover Approved Diagnostic Equipment, perform the (Turbo, EGR and air path dynamic test) routine ■ Check the vacuum system, Charge air shut-off valve and Turbine intake shut-off valve operation. **Refer to section 303-04B or 303-04D and perform pinpoint test A Vacuum Control System Tests** ■ If this DTC is logged with P0235-94, P00BD-07, P1247-00 & P22CF-71, suspect turbine intake solenoid sticking open ■ If this DTC is logged with P1247-00, P0235-94, P00BD-07, & P22CF-71, suspect blocked low pressure air intake
P22D3-77	Turbocharger Turbine Inlet Valve Stuck Closed - Commanded position not reachable	■ The engine control module is unable to command a motor, solenoid or relay, to move a piece of equipment to the commanded position either due to a failure in the actuator or its mechanical environment ■ Connector is disconnected, connector pin is backed out, connector pin corrosion ■ Secondary turbocharger charge air shut-off solenoid circuit short circuit to ground, short circuit to power, open circuit, high resistance ■ Secondary turbocharger charge air shut-off valve system mechanical integrity ■ Secondary turbocharger charge air shut-off valve system vacuum leakage ■ Secondary turbocharger charge air shut-off solenoid failure	■ Using the Jaguar Land Rover Approved Diagnostic Equipment, perform the (Turbo, EGR and air path dynamic test) routine ■ Refer to the electrical circuit diagrams and check the secondary turbocharger charge air shut-off solenoid circuit for short circuit to ground, short circuit to power, open circuit, high resistance ■ Check the vacuum system, Charge air shut-off valve and Turbine intake shut-off valve operation. **Refer to section 303-04B or 303-04D and perform pinpoint test A Vacuum Control System Tests** ■ If this DTC is logged with P00BC-00, & P22CF-71, suspect turbine intake solenoid sticking closed
P22D4-13	Turbocharger Turbine Inlet Valve Position Sensor Circuit - Circuit open	**NOTE:** Circuit reference - TSVP ■ The engine control module has determined an open circuit via lack of bias voltage, low current flow, no change in the state of an input in response to an output ■ Turbine intake valve position sensor circuit open circuit, high resistance	■ Using the Jaguar Land Rover approved diagnostic system, perform the (Turbo, EGR and air path dynamic test) routine ■ Refer to the electrical circuit diagrams and check turbine intake valve position sensor circuit for open circuit, high resistance

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P22D4-16	Turbocharger Turbine Inlet Valve Position Sensor Circuit - Circuit voltage below threshold	**NOTE:** Circuit reference - TSVP ■ The engine control module measured a voltage below a specified range but not necessarily a short circuit to ground ■ Turbine intake valve position sensor circuit short circuit to ground	■ Refer to the electrical circuit diagrams and check turbine intake valve position sensor circuit short circuit to ground
P22D4-17	Turbocharger Turbine Inlet Valve Position Sensor Circuit - Circuit voltage above threshold - Actuator stuck	**NOTE:** Circuit reference - TSVP ■ The engine control module measured a voltage above a specified range but not necessarily a short circuit to power ■ This is the long term adaption limit diagnostic. It diagnoses that the adapted values for the actuator end stops is outside of tolerance. This could be caused by sensor drift over time ■ Turbine intake valve position sensor circuit short circuit to power ■ Turbine intake valve position sensor stuck	■ Refer to the electrical circuit diagrams and check turbine intake valve position sensor circuit for short circuit to power ■ Check and install a new turbine intake valve position sensor as required
P22D4-71	Turbocharger Turbine Inlet Valve Position Sensor Circuit - Actuator stuck	■ The engine control module has not detected any motion, in response to energizing a motor, solenoid or relay ■ This is the long term adaption limit diagnostic. It diagnoses that the adapted values for the actuator end stops is outside of tolerance. This could be caused by sensor drift over time ■ Turbine intake valve position sensor stuck	■ Check and install a new turbine intake valve position sensor as required

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P22D4-92	Turbocharger Turbine Inlet Valve Position Sensor Circuit - Performance or incorrect operation	■ The engine control module has detected that the component performance is outside its expected range or operating in an incorrect way ■ This is the long term adaption limit diagnostic. It diagnoses that the adapted values for the actuator end stops is outside of tolerance. This could be caused by sensor drift over time ■ Turbine intake valve position sensor stuck	■ Check and install a new turbine intake valve position sensor as required
P22D5-92	Turbocharger Turbine Inlet Valve Position Sensor Circuit Range /Performance - Performance or incorrect operation	■ The engine control module has detected that the component performance is outside its expected range or operating in an incorrect way ■ This is the long term adaption limit diagnostic. It diagnoses that the adapted values for the actuator end stops is outside of tolerance. This could be caused by sensor drift over time ■ Turbine intake valve position sensor stuck	■ Check and install a new turbine intake valve position sensor as required
P22D6-11	Turbocharger Turbine Inlet Valve Position Sensor Circuit Low - Circuit short to ground	**NOTE:** Circuit reference - TSVP ■ The engine control module has detected a ground measurement for a period longer than expected or has detected a ground measurement when another value was expected ■ Turbine intake valve position sensor circuit short circuit to ground	■ Refer to the electrical circuit diagrams and check turbine intake valve position sensor circuit for short circuit to ground
P22D7-12	Turbocharger Turbine Inlet Valve Position Sensor Circuit High - Circuit short to battery	**NOTE:** Circuit reference - TSVP ■ The engine control module has detected a vehicle power measurement for a period longer than expected or has detected a vehicle power measurement when another value was expected ■ Turbine intake valve position sensor circuit short circuit to power	■ Refer to the electrical circuit diagrams and check turbine intake valve position sensor circuit for short circuit to power

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P242A-00	Exhaust Gas Temperature Sensor Circuit Bank 1 Sensor 3 - No sub type information	**NOTE:** Circuit reference - PFOT ■ Harness fault - Particulate filter outlet temperature sensor ■ Particulate filter outlet temperature sensor failure	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, Exhaust Gas Temperature Bank 1 Sensor 3 (0x03F6), Exhaust Gas Temperature Bank 1 Sensor 3 Voltage (0x03F8). This DTC is set if the Particulate filter outlet temperature sensor fails a cold start diagnostic check by the engine control module. Refer to the workshop manual and check the particulate filter and sensor for obvious signs of damage. Check the sensor harness for chaffing or heat damage. Refer to the electrical circuit diagrams and check the particulate filter outlet temperature sensor signal circuit for open circuit, short circuit to ground, short circuit to other circuits. Check the sensor ground circuit for open circuit, short circuit to power, high resistance. Repair wiring as required ■ If there are no wiring faults suspect the particulate filter outlet temperature sensor
P242B-00	Exhaust Gas Temperature Sensor Circuit Range /Performance Bank 1 Sensor 3 - No sub type information	**NOTE:** Circuit reference - PFOT ■ Harness fault - Particulate filter outlet temperature sensor ■ Particulate filter outlet temperature sensor failure	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, Exhaust Gas Temperature Bank 1 Sensor 3 (0x03F6), Exhaust Gas Temperature Bank 1 Sensor 3 Voltage (0x03F8). This DTC is set if the Particulate filter outlet temperature sensor fails a plausibility check by the engine control module. Refer to the workshop manual and check the particulate filter and sensor for obvious signs of damage. Check the sensor harness for chaffing or heat damage. Refer to the electrical circuit diagrams and check the particulate filter outlet temperature sensor signal circuit for open circuit, short circuit to ground, short circuit to other circuits. Check the sensor ground circuit for open circuit, short circuit to power, high resistance. Repair wiring as required ■ If there are no wiring faults suspect the particulate filter outlet temperature sensor
P242C-00	Exhaust Gas Temperature Sensor Circuit Low Bank 1 Sensor 3 - No sub type information	**NOTE:** Circuit reference - PFOT ■ Harness fault - Particulate filter outlet temperature sensor ■ Particulate filter outlet temperature sensor failure	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, Exhaust Gas Temperature Bank 1 Sensor 3 (0x03F6), Exhaust Gas Temperature Bank 1 Sensor 3 Voltage (0x03F8). This DTC is set if the Particulate filter outlet temperature sensor signal voltage is less than the engine control module was expecting. Refer to the workshop manual and check the particulate filter and sensor for obvious signs of damage. Check the sensor harness for chaffing or heat damage. Refer to the electrical circuit diagrams and check the particulate filter outlet temperature sensor signal circuit for open circuit, short circuit to ground, short circuit to other circuits. Check the sensor ground circuit for open circuit, short circuit to power, high resistance. Repair wiring as required ■ If there are no wiring faults suspect the particulate filter outlet temperature sensor

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P242D-00	Exhaust Gas Temperature Sensor Circuit High Bank 1 Sensor 3 - No sub type information	**NOTE:** Circuit reference - PFOT ■ Harness fault - Particulate filter outlet temperature sensor ■ Particulate filter outlet temperature sensor failure	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, Exhaust Gas Temperature Bank 1 Sensor 3 (0x03F6), Exhaust Gas Temperature Bank 1 Sensor 3 Voltage (0x03F8). This DTC is set if the Particulate filter outlet temperature sensor signal voltage is greater than the engine control module was expecting. Refer to the workshop manual and check the particulate filter and sensor for obvious signs of damage. Check the sensor harness for chaffing or heat damage. Refer to the electrical circuit diagrams and check the particulate filter outlet temperature sensor signal circuit for open circuit, short circuit to ground, short circuit to other circuits. Check the sensor ground circuit for open circuit, short circuit to power, high resistance. Repair wiring as required ■ If there are no wiring faults suspect the particulate filter outlet temperature sensor
P242F-00	Diesel Particulate Filter Restriction - Ash Accumulation (Bank 1) - No sub type information	■ Maximum ash load	**NOTE:** The setting value of this DTC is inhibited ■ Contact dealer technical support
P244A-00	Diesel Particulate Filter Differential Pressure Too Low(Bank1) - No sub type information	■ Diagnostic fault check for minimum pressure differential characteristics ■ Diesel particulate filter internal components are missing or destroyed	■ Using the Jaguar Land Rover approved diagnostic system, check for related DTCs and refer to the relevant DTC index ■ Clear DTC and re-test ■ Check and install new diesel particulate filter as required
P244A-96	Diesel Particulate Filter Differential Pressure Too Low(Bank1) - Component internal failure	■ Destroyed particulate filter	■ Refer to the relevant pinpoint test in section 309-00
P244B-68	Diesel Particulate Filter Differential Pressure Too High (Bank 1) - Event information	■ The engine control module indicated the detection of a system event that was not caused by the engine control module itself but forced the engine control module to store the DTC e.g. missing functionality from another system or control module ■ Engine protection back pressure high ■ Sudden increases in differential pressure across the diesel particulate filter	**NOTE:** This DTC when logged on its own is advisory only and no further action should be taken ■ Using the Jaguar Land Rover approved diagnostic system, check for related DTCs. If this DTC exists with any other diesel particulate filter differential pressure sensor DTCs, follow the advice given for that DTC

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P244E-00	Exhaust Temperature Too Low For Particulate Filter Regeneration, Bank 2 - No sub type information	■ Error path for not reaching the setpoint of the inner loop with maximal control variable	■ Using the Jaguar Land Rover approved diagnostic system, check for related DTCs and refer to the relevant DTC index. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest. This DTC has been calibrated not to log
P244F-00	Exhaust Temperature Too High For Particulate Filter Regeneration, Bank 2 - No sub type information	■ Error path for not reaching the setpoint of the inner loop with minimal control variable	■ Using the Jaguar Land Rover approved diagnostic system, check for related DTCs and refer to the relevant DTC index. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest. This DTC has been calibrated not to log
P2452-23	Diesel Particulate Filter Pressure Sensor A Circuit - Signal stuck low	■ Differential pressure sensor circuit, short circuit to ground ■ Diesel particulate filter pressure sensor A circuit, hose line error	■ Refer to the electrical circuit diagrams and check the differential pressure sensor circuit, for short circuit to ground ■ Using the Jaguar Land Rover approved diagnostic system, check for related DTCs and refer to the relevant DTC Index
P2452-29	Diesel Particulate Filter Pressure Sensor A Circuit - Signal invalid	■ Diagnostic fault check for frozen differential pressure sensor	■ Using the Jaguar Land Rover approved diagnostic system, check for related DTCs and refer to the relevant DTC index

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P2452-95	Diesel Particulate Filter Pressure Sensor A Circuit - Incorrect assembly	■ The engine control module has detected that the component has been incorrectly installed e.g. hydraulic pipes crossed over, circuits cross wired or polarity errors ■ Diesel particulate filter pressure sensor hoses connected incorrectly ■ Diesel particulate filter pressure sensor hoses crushed, blocked, split	**NOTE:** If a new diesel particulate filter pressure sensor or hose lines have been installed or incorrectly routed, or any pressure sensor circuit repairs carried out, the engine control module must learn and store the new diesel particulate filter pressure sensor offset value. The following conditions must be met to allow the diesel particulate filter pressure sensor offset value to be learnt and stored: Using the Jaguar Land Rover approved diagnostic system, clear DTCs from engine control module, then monitor the datalogger signal 'sump oil temperature measured' ensuring a minimum of 50°C is achieved. Start engine, run above 500RPM for 2 minutes, then a further 30 seconds at idle. Ensure the engine cooling fan is not running. Set vehicle in park and set ignition status to off. Wait 30 seconds for the engine control module to power down, learn and store diesel particulate filter pressure sensor offset value. This process must be carried out six times, to allow a large negative offset value to adapt back to 0 Hpa ■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, Particulate Filter Differential Pressure Sensor Voltage - Bank 1 (0x03DB). Refer to the workshop manual and check diesel particulate filter pressure sensor hoses are installed correctly ■ Check diesel particulate filter pressure sensor hoses for crushed, blockage, split

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P2453-00	Diesel Particulate Filter Pressure Sensor A Circuit Range /Performance - No sub type information	**NOTE:** Circuit reference - DPF_PRESSURE_SENSOR ■ Harness fault - Particulate filter pressure sensor ■ Particulate filter pressure sensor failure	**NOTE:** If a new diesel particulate filter pressure sensor or hose lines have been installed or incorrectly routed, or any pressure sensor circuit repairs carried out, the engine control module must learn and store the new diesel particulate filter pressure sensor offset value. The following conditions must be met to allow the diesel particulate filter pressure sensor offset value to be learnt and stored: Using the Jaguar Land Rover approved diagnostic system, clear DTCs from engine control module, then monitor the datalogger signal 'sump oil temperature measured' ensuring a minimum of 50°C is achieved. Start engine, run above 500RPM for 2 minutes, then a further 30 seconds at idle. Ensure the engine cooling fan is not running. Set vehicle in park and set ignition status to off. Wait 30 seconds for the engine control module to power down, learn and store diesel particulate filter pressure sensor offset value. This process must be carried out six times, to allow a large negative offset value to adapt back to 0 Hpa ■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, Particulate Filter Differential Pressure Sensor Voltage - Bank 1 (0x03DB). This DTC is set when the particulate pressure sensor fails a plausibility check. Refer to the workshop manual and check the particulate filter and sensor for obvious signs of damage. Check the sensor harness for chaffing or heat damage. Refer to the electrical circuit diagrams and check the particulate filter pressure sensor signal circuit for open circuit, short circuit to ground, short circuit to other circuits. Check the sensor ground circuit for open circuit, short circuit to power, high resistance. Check the sensor power supply circuit for open circuit, short circuit to ground, high resistance. Repair wiring as required ■ If there are no wiring faults suspect the particulate filter pressure sensor

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P2453-16	Diesel Particulate Filter Pressure Sensor A Circuit Range /Performance - Circuit voltage below threshold	**NOTE:** Circuit reference - DPF_PRESSURE_SENSOR ■ Diagnostic fault check for signal range check low in flow resistance ■ Harness fault - Particulate filter pressure sensor ■ Particulate filter pressure sensor failure	■ Using the Jaguar Land Rover approved diagnostic system, check for related DTCs and refer to the relevant DTC index ■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, Particulate Filter Differential Pressure Sensor Voltage - Bank 1 (0x03DB). This DTC is set when the particulate pressure sensor fails a plausibility check. Refer to the workshop manual and check the particulate filter and sensor for obvious signs of damage. Check the sensor harness for chaffing or heat damage. Refer to the electrical circuit diagrams and check the particulate filter pressure sensor signal circuit for open circuit, short circuit to ground, short circuit to other circuits. Check the sensor ground circuit for open circuit, short circuit to power, high resistance. Check the sensor power supply circuit for open circuit, short circuit to ground, high resistance. Repair wiring as required ■ If there are no wiring faults suspect the particulate filter pressure sensor
P2453-17	Diesel Particulate Filter Pressure Sensor A Circuit Range /Performance - Circuit voltage above threshold	**NOTE:** Circuit reference - DPF_PRESSURE_SENSOR ■ Diagnostic fault check for signal range check high in flow resistance ■ Harness fault - Particulate filter pressure sensor ■ Particulate filter pressure sensor failure	■ Using the Jaguar Land Rover approved diagnostic system, check for related DTCs and refer to the relevant DTC index ■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, Particulate Filter Differential Pressure Sensor Voltage - Bank 1 (0x03DB). This DTC is set when the particulate pressure sensor fails a plausibility check. Refer to the workshop manual and check the particulate filter and sensor for obvious signs of damage. Check the sensor harness for chaffing or heat damage. Refer to the electrical circuit diagrams and check the particulate filter pressure sensor signal circuit for open circuit, short circuit to ground, short circuit to other circuits. Check the sensor ground circuit for open circuit, short circuit to power, high resistance. Check the sensor power supply circuit for open circuit, short circuit to ground, high resistance. Repair wiring as required ■ If there are no wiring faults suspect the particulate filter pressure sensor

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P2454-00	Diesel Particulate Filter Pressure Sensor A Circuit Low - No sub type information	**NOTE:** Circuit reference - DPF_PRESSURE_SENSOR ■ Harness fault - Particulate filter pressure sensor ■ Particulate filter pressure sensor failure	**NOTE:** If a new diesel particulate filter pressure sensor or hose lines have been installed or incorrectly routed, or any pressure sensor circuit repairs carried out, the engine control module must learn and store the new diesel particulate filter pressure sensor offset value. The following conditions must be met to allow the diesel particulate filter pressure sensor offset value to be learnt and stored: Using the Jaguar Land Rover approved diagnostic system, clear DTCs from engine control module, then monitor the datalogger signal 'sump oil temperature measured' ensuring a minimum of 50°C is achieved. Start engine, run above 500RPM for 2 minutes, then a further 30 seconds at idle. Ensure the engine cooling fan is not running. Set vehicle in park and set ignition status to off. Wait 30 seconds for the engine control module to power down, learn and store diesel particulate filter pressure sensor offset value. This process must be carried out six times, to allow a large negative offset value to adapt back to 0 Hpa ■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, Particulate Filter Differential Pressure Sensor Voltage - Bank 1 (0x03DB). This DTC is set when the particulate pressure sensor voltage is less than the threshold set in the engine control module diagnostic check. Refer to the workshop manual and check the particulate filter and sensor for obvious signs of damage. Check the sensor harness for chaffing or heat damage. Refer to the electrical circuit diagrams and check the particulate filter pressure sensor signal circuit for open circuit, short circuit to ground, short circuit to other circuits. Check the sensor ground circuit for open circuit, short circuit to power, high resistance. Check the sensor power supply circuit for open circuit, short circuit to ground, high resistance. Repair wiring as required ■ If there are no wiring faults suspect the particulate filter pressure sensor

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P2455-00	Diesel Particulate Filter Pressure Sensor A Circuit High - No sub type information	**NOTE:** Circuit reference - DPF_PRESSURE_SENSOR ■ Harness fault - Particulate filter pressure sensor ■ Particulate filter pressure sensor failure	**NOTE:** If a new diesel particulate filter pressure sensor or hose lines have been installed or incorrectly routed, or any pressure sensor circuit repairs carried out, the engine control module must learn and store the new diesel particulate filter pressure sensor offset value. The following conditions must be met to allow the diesel particulate filter pressure sensor offset value to be learnt and stored: Using the Jaguar Land Rover approved diagnostic system, clear DTCs from engine control module, then monitor the datalogger signal 'sump oil temperature measured' ensuring a minimum of 50°C is achieved. Start engine, run above 500RPM for 2 minutes, then a further 30 seconds at idle. Ensure the engine cooling fan is not running. Set vehicle in park and set ignition status to off. Wait 30 seconds for the engine control module to power down, learn and store diesel particulate filter pressure sensor offset value. This process must be carried out six times, to allow a large negative offset value to adapt back to 0 Hpa ■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, Particulate Filter Differential Pressure Sensor Voltage - Bank 1 (0x03DB). This DTC is set when the particulate pressure sensor voltage is greater than the threshold set in the engine control module diagnostic check. Refer to the workshop manual and check the particulate filter and sensor for obvious signs of damage. Check the sensor harness for chaffing or heat damage. Refer to the electrical circuit diagrams and check the particulate filter pressure sensor signal circuit for open circuit, short circuit to ground, short circuit to other circuits. Check the sensor ground circuit for open circuit, short circuit to power, high resistance. Check the sensor power supply circuit for open circuit, short circuit to ground, high resistance. Repair wiring as required ■ If there are no wiring faults suspect the particulate filter pressure sensor

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P2456-00	Diesel Particulate Filter Pressure Sensor A Circuit Intermittent /Erratic - No sub type information	■ Diesel particulate filter pressure sensor hoses crushed, blocked, split ■ Diesel particulate filter differential pressure sensor failure	**NOTE:** If a new diesel particulate filter pressure sensor or hose lines have been installed or incorrectly routed, or any pressure sensor circuit repairs carried out, the engine control module must learn and store the new diesel particulate filter pressure sensor offset value. The following conditions must be met to allow the diesel particulate filter pressure sensor offset value to be learnt and stored: Using the Jaguar Land Rover approved diagnostic system, clear DTCs from engine control module, then monitor the datalogger signal 'sump oil temperature measured' ensuring a minimum of 50°C is achieved. Start engine, run above 500RPM for 2 minutes, then a further 30 seconds at idle. Ensure the engine cooling fan is not running. Set vehicle in park and set ignition status to off. Wait 30 seconds for the engine control module to power down, learn and store diesel particulate filter pressure sensor offset value. This process must be carried out six times, to allow a large negative offset value to adapt back to 0 Hpa ■ Check diesel particulate filter pressure sensor hoses for crushed, blocked, split ■ Check and replace diesel particulate filter differential pressure sensor as required
P2458-66	Diesel Particulate Filter Regeneration Duration (Bank 1) - Signal has too many transitions /events	■ The engine control module monitored a parameter over time within specified limits and detected more than the expected number of transitions ■ Permanent regeneration	**NOTE:** This code is enabled for JLR engineering detailed diagnostics only. No further action should be taken ■ Using the Jaguar Land Rover approved diagnostic system, check for related DTCs and refer to the relevant DTC index
P2459-65	Diesel Particulate Filter Regeneration Frequency (Bank 1) - Signal has too few transitions /events	■ The engine control module monitored a parameter over time within specified limits and detected fewer than the expected number of transitions ■ Blocked regeneration ■ Customer driving routine does not allow the system to clean the particulate filter	**NOTE:** If DTC is P2459-65 or AMBER DPF FULL REFER TO HANDBOOK message is displayed with no other reported messages. No repair is required, if the vehicle is driven on a highway AS DIRECTED IN THE HANDBOOK then the light will be extinguished and the system self healed, nothing more than this is required ■ Refer to the diesel particulate filter regeneration procedure and carry out a diesel particulate filter regeneration ■ Advise customer of driving routine required to regenerate diesel particulate filter as stated in the vehicle handbook

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P2459-66	Diesel Particulate Filter Regeneration Frequency (Bank 1) - Signal has too many transitions /events	■ The engine control module monitored a parameter over time within specified limits and detected more than the expected number of transitions ■ Regeneration frequency	**NOTE:** This code is enabled for JLR engineering detailed diagnostics only. No further action should be taken ■ Using the Jaguar Land Rover approved diagnostic system, check for related DTCs and refer to the relevant DTC index
P245A-11	Exhaust Gas Recirculation Cooler Bypass Control Circuit - Circuit short to ground	**NOTE:** Circuit reference - EGRCBV ■ The engine control module has detected a ground measurement for a period longer than expected or has detected a ground measurement when another value was expected ■ Harness fault - Exhaust gas recirculation cooling bypass valve solenoid circuit short circuit to ground	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, EGR Cooler Bypass Valve Duty Cycle (0x03C5). Refer to the electrical circuit diagrams and check the exhaust gas recirculation cooling bypass valve solenoid circuit for short circuit to ground. Check power supply to the solenoid. Repair any wiring faults found. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest
P245A-12	Exhaust Gas Recirculation Cooler Bypass Control Circuit - Circuit short to battery	**NOTE:** Circuit reference - EGRCBV ■ The engine control module has detected a vehicle power measurement for a period longer than expected or has detected a vehicle power measurement when another value was expected ■ Harness fault - Exhaust gas recirculation cooling bypass valve solenoid circuit short circuit to power ■ Exhaust gas recirculation cooling bypass valve solenoid failure	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, EGR Cooler Bypass Valve Duty Cycle (0x03C5). Refer to the electrical circuit diagrams and check the exhaust gas recirculation cooling bypass valve solenoid circuit for short circuit to power. Check power supply to the solenoid. Repair any wiring faults found. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ If no fault found in wiring harness suspect exhaust gas recirculation cooling bypass valve solenoid failure

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P245A-13	Exhaust Gas Recirculation Cooler Bypass Control Circuit - Circuit open	**NOTE:** Circuit reference - EGRCBV ■ The engine control module has determined an open circuit via lack of bias voltage, low current flow, no change in the state of an input in response to an output ■ Harness fault - Exhaust gas recirculation cooling bypass valve solenoid circuit open circuit ■ Exhaust gas recirculation cooling bypass valve solenoid failure	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, EGR Cooler Bypass Valve Duty Cycle (0x03C5). Refer to the electrical circuit diagrams and check the exhaust gas recirculation cooling bypass valve solenoid circuit for open circuit. Check power supply to the solenoid. Repair any wiring faults found. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ If no fault found in wiring harness suspect exhaust gas recirculation cooling bypass valve solenoid failure
P245B-19	Exhaust Gas Recirculation Cooler Bypass Control Circuit Range /Performance - Circuit current above threshold	■ Harness fault - Exhaust gas recirculation cooling bypass valve solenoid circuit short circuit to ground, high resistance ■ Exhaust gas recirculation cooling bypass valve solenoid failure	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, EGR Cooler Bypass Valve Duty Cycle (0x03C5). Refer to the electrical circuit diagrams and check the exhaust gas recirculation cooling bypass valve solenoid circuit for short circuit to ground, high resistance. Repair any wiring faults found. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ Check and install a new exhaust gas recirculation cooling bypass valve solenoid as required
P2463-00	Diesel Particulate Filter Restriction - Soot Accumulation (Bank 1) - No sub type information	■ Maximum soot mass	■ Refer to the relevant pinpoint test in section 309-00
P246C-00	Diesel Particulate Filter Restriction - Forced Limited Power (Bank 1) - No sub type information	■ Diagnostic fault check for maximum pressure differential characteristics	■ Using the Jaguar Land Rover approved diagnostic system, check for related DTCs and refer to the relevant DTC index

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P250A-36	Engine Oil Level Sensor Circuit - Signal frequency too low	**NOTE:** Circuit reference - OTL ■ The engine control module detected excessive duration for one cycle of the output across a specified sample size ■ Oil temperature level sensor circuit short circuit to ground, high resistance, open circuit ■ Oil temperature level sensor failure	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, Engine Oil Level - Measured (0x03E6), Engine Oil Volume - Calculated (0x03F2), Sump Oil Temperature - Measured (0x03F3). Refer to the electrical circuit diagrams and check oil temperature level sensor circuit for short circuit to ground, high resistance, open circuit. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ Check and install a new oil temperature level sensor as required
P250A-37	Engine Oil Level Sensor Circuit - Signal frequency too high	**NOTE:** Circuit reference - OTL ■ The engine control module detected insufficient duration for one cycle of the output across a specified sample size ■ Oil temperature level sensor circuit short circuit to power ■ Oil temperature level sensor failure	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, Engine Oil Level - Measured (0x03E6), Engine Oil Volume - Calculated (0x03F2), Sump Oil Temperature - Measured (0x03F3). Refer to the electrical circuit diagrams and check oil temperature level sensor circuit for short circuit to power. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ Check and install a new oil temperature level sensor as required
P250A-38	Engine Oil Level Sensor Circuit - Signal frequency incorrect	**NOTE:** Circuit reference - OTL ■ The engine control module measured an incorrect number of cycles in a given time period ■ Oil temperature level sensor circuit short circuit to ground, short circuit to power, high resistance, open circuit ■ Oil temperature level sensor failure	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, Engine Oil Level - Measured (0x03E6), Engine Oil Volume - Calculated (0x03F2), Sump Oil Temperature - Measured (0x03F3). Refer to the electrical circuit diagrams and check oil temperature level sensor circuit for short circuit to ground, short circuit to power, high resistance, open circuit. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ Check and install a new oil temperature level sensor as required
P250A-47	Engine Oil Level Sensor Circuit - Watchdog /safety Micro Controller failure	■ Oil temperature level sensor circuit short circuit to ground, short circuit to power, high resistance, open circuit ■ Oil temperature level sensor failure	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, Engine Oil Level - Measured (0x03E6), Engine Oil Volume - Calculated (0x03F2), Sump Oil Temperature - Measured (0x03F3). Refer to the electrical circuit diagrams and check oil temperature level sensor circuit for short circuit to ground, short circuit to power, high resistance, open circuit. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ Check and install a new oil temperature level sensor as required

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P250A-92	Engine Oil Level Sensor Circuit - Performance or incorrect operation	■ The engine control module has detected that the component performance is outside its expected range or operating in an incorrect way ■ Oil temperature level sensor circuit short circuit to ground, short circuit to power, high resistance, open circuit ■ Oil temperature level sensor failure	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signals, Engine Oil Level - Measured (0x03E6), Engine Oil Volume - Calculated (0x03F2), Sump Oil Temperature - Measured (0x03F3). Refer to the electrical circuit diagrams and check oil temperature level sensor circuit for short circuit to ground, short circuit to power, high resistance, open circuit. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ Check and install a new oil temperature level sensor as required
P2586-13	Turbocharger Boost Control Position Sensor B Circuit - Circuit open	**NOTE:** Circuit reference - VGT_FB ■ The engine control module has determined an open circuit via lack of bias voltage, low current flow, no change in the state of an input in response to an output ■ Harness fault - Variable geometry turbocharger actuator vane open circuit ■ Variable geometry turbocharger actuator vane failure	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signal, Boost Pressure Actuator Bank 2 - Measured Position (0x0347). Refer to the electrical circuit diagrams and check the variable geometry turbocharger actuator vane on bank 1 for open circuit. This circuit consists of three wires between the engine control module and the variable geometry turbocharger control module. The three sensor wires are a 5 volt sensor supply, a sensor ground and a signal line. Check signal line for open circuit and power and ground supply to sensor. Repair wiring as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ If no fault found in wiring harness suspect variable geometry turbocharger position sensor failure
P2586-32	Turbocharger Boost Control Position Sensor B Circuit - Signal low time < minimum	**NOTE:** Circuit reference - VGT_FB ■ Harness fault - Variable geometry turbocharger actuator vane circuit short circuit to ground, high resistance, open circuit ■ Variable geometry turbocharger actuator vane failure	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signal, Boost Pressure Actuator Bank 2 - Measured Position (0x0347). Refer to the electrical circuit diagrams and check the variable geometry turbocharger actuator vane on bank 1 for short circuit to ground, high resistance, open circuit. Repair wiring as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ If no fault found in wiring harness check and install a new variable geometry turbocharger position sensor as required

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P2586-35	Turbocharger Boost Control Position Sensor B Circuit - Signal high time > maximum	**NOTE:** Circuit reference - VGT_FB ■ Harness fault - Variable geometry turbocharger actuator vane ■ Variable geometry turbocharger actuator vane failure	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signal, Boost Pressure Actuator Bank 2 - Measured Position (0x0347). Refer to the electrical circuit diagrams and check the variable geometry turbocharger actuator vane on bank 1 for open circuit. This circuit consists of three wires between the engine control module and the variable geometry turbocharger control module. The three sensor wires are a 5 volt sensor supply, a sensor ground and a signal line. Check signal line for open circuit, short circuit to power, short circuit to ground. Check power and ground supply to sensor. Repair wiring as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ If no fault found in wiring harness suspect variable geometry turbocharger position sensor failure
P2586-36	Turbocharger Boost Control Position Sensor B Circuit - Signal frequency too low	**NOTE:** Circuit reference - VGT_FB ■ The engine control module detected excessive duration for one cycle of the output across a specified sample size ■ Harness fault - Variable geometry turbocharger actuator vane ■ Variable geometry turbocharger actuator vane failure	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signal, Boost Pressure Actuator Bank 2 - Measured Position (0x0347). Refer to the electrical circuit diagrams and check the variable geometry turbocharger actuator vane on bank 1 for open circuit. This circuit consists of three wires between the engine control module and the variable geometry turbocharger control module. The three sensor wires are a 5 volt sensor supply, a sensor ground and a signal line. Check signal line for open circuit, short circuit to power, short circuit to ground. Check power and ground supply to sensor. Repair wiring as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ If no fault found in wiring harness suspect variable geometry turbocharger position sensor failure
P2586-37	Turbocharger Boost Control Position Sensor B Circuit - Signal frequency too high	**NOTE:** Circuit reference - VGT_FB ■ The engine control module detected insufficient duration for one cycle of the output across a specified sample size ■ Harness fault - Variable geometry turbocharger actuator vane ■ Variable geometry turbocharger actuator vane failure	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signal, Boost Pressure Actuator Bank 2 - Measured Position (0x0347). Refer to the electrical circuit diagrams and check the variable geometry turbocharger actuator vane on bank 1 for open circuit. This circuit consists of three wires between the engine control module and the variable geometry turbocharger control module. The three sensor wires are a 5 volt sensor supply, a sensor ground and a signal line. Check signal line for open circuit, short circuit to power, short circuit to ground. Check power and ground supply to sensor. Repair wiring as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ If no fault found in wiring harness suspect variable geometry turbocharger actuator vane failure

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P2587-92	Turbocharger Boost Control Position Sensor B Circuit Range /Performance - Performance or incorrect operation	■ The engine control module has detected that the component performance is outside its expected range or operating in an incorrect way ■ Harness fault - Variable geometry turbocharger actuator vane ■ Variable geometry turbocharger actuator vane failure	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signal, Boost Pressure Actuator Bank 2 - Measured Position (0x0347). Refer to the electrical circuit diagrams and check the variable geometry turbocharger actuator vane on bank 1 for open circuit. This circuit consists of three wires between the engine control module and the variable geometry turbocharger control module. The three sensor wires are a 5 volt sensor supply, a sensor ground and a signal line. Check signal line for open circuit, short circuit to power, short circuit to ground. Check power and ground supply to sensor. Repair wiring as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ If no fault found in wiring harness suspect variable geometry turbocharger actuator vane failure
P2588-00	Turbocharger Boost Control Position Sensor B Circuit Low - No sub type information	**NOTE:** Circuit reference - VGT_FB ■ Harness fault - Variable geometry turbocharger actuator vane ■ Variable geometry turbocharger actuator vane circuit short circuit to ground ■ Variable geometry turbocharger actuator vane failure	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signal, Boost Pressure Actuator Bank 2 - Measured Position (0x0347). This DTC is set when the engine control module detects a low circuit voltage on the signal line from the variable geometry turbocharger actuator vane. This circuit consists of three wires between the engine control module and the variable geometry turbocharger control module. The three sensor wires are a 5 volt sensor supply, a sensor ground and a signal line. Check signal line for short circuit to ground. Check power and ground supply to sensor. Repair wiring as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ Refer to the electrical circuit diagrams and check variable geometry turbocharger actuator vane circuit for short circuit to ground ■ If no fault found in wiring harness suspect variable geometry turbocharger actuator vane failure
P2589-00	Turbocharger Boost Control Position Sensor B Circuit High - No sub type information	**NOTE:** Circuit reference - VGT_FB ■ Harness fault - Variable geometry turbocharger actuator vane ■ Variable geometry turbocharger actuator vane circuit short circuit to power ■ Variable geometry turbocharger actuator vane failure	■ Using the Jaguar Land Rover approved diagnostic system, check datalogger signal, Boost Pressure Actuator Bank 2 - Measured Position (0x0347). This DTC is set when the engine control module detects a high circuit voltage on the signal line from the variable geometry turbocharger actuator vane. This circuit consists of three wires between the engine control module and the variable geometry turbocharger control module. The three sensor wires are a 5 volt sensor supply, a sensor ground and a signal line. Check signal line for short circuit to power. Check power and ground supply to sensor. Repair wiring as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ Refer to the electrical circuit diagrams and check variable geometry turbocharger actuator vane circuit for short circuit to power ■ If no fault found in wiring harness suspect variable geometry turbocharger actuator vane failure

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P268C-00	Cylinder 1 Injector Data Incompatible - No sub type information	■ Cylinder 1 injector calibration data held in the engine control module is different to that read from the injector ■ Cylinder 1 injector calibration data not stored/programmed ■ Engine control module failure	■ Using the Jaguar Land Rover approved diagnostic system, reprogram injector codes. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest. Using the Jaguar Land Rover approved diagnostic system, re-configure the engine control module with the latest level software ■ Check and install a new engine control module as required
P268C-51	Cylinder 1 Injector Data Incompatible - Not programmed	■ The engine control module has indicated that programming is required ■ Cylinder 1 injector calibration data not stored/programmed ■ Engine control module failure	■ Using the Jaguar Land Rover approved diagnostic system, reprogram injector codes. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest. Using the Jaguar Land Rover approved diagnostic system, re-configure the engine control module with the latest level software ■ Check and install a new engine control module as required
P268D-00	Cylinder 2 Injector Data Incompatible - No sub type information	■ Cylinder 2 injector calibration data held in the engine control module is different to that read from the injector ■ Cylinder 2 injector calibration data not stored/programmed ■ Engine control module failure	■ Using the Jaguar Land Rover approved diagnostic system, reprogram injector codes. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest. Using the Jaguar Land Rover approved diagnostic system, re-configure the engine control module with the latest level software ■ Check and install a new engine control module as required
P268D-51	Cylinder 2 Injector Data Incompatible - Not programmed	■ The engine control module has indicated that programming is required ■ Cylinder 2 injector calibration data not stored/programmed ■ Engine control module failure	■ Using the Jaguar Land Rover approved diagnostic system, reprogram injector codes. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest. Using the Jaguar Land Rover approved diagnostic system, re-configure the engine control module with the latest level software ■ Check and install a new engine control module as required
P268E-00	Cylinder 3 Injector Data Incompatible - No sub type information	■ Cylinder 3 injector calibration data held in the engine control module is different to that read from the injector ■ Cylinder 3 injector calibration data not stored/programmed ■ Engine control module failure	■ Using the Jaguar Land Rover approved diagnostic system, reprogram injector codes. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest. Using the Jaguar Land Rover approved diagnostic system, re-configure the engine control module with the latest level software ■ Check and install a new engine control module as required

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P268E-51	Cylinder 3 Injector Data Incompatible - Not programmed	■ The engine control module has indicated that programming is required ■ Cylinder 3 injector calibration data not stored/programmed ■ Engine control module failure	■ Using the Jaguar Land Rover approved diagnostic system, reprogram injector codes. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest. Using the Jaguar Land Rover approved diagnostic system, re-configure the engine control module with the latest level software ■ Check and install a new engine control module as required
P268F-00	Cylinder 4 Injector Data Incompatible - No sub type information	■ Cylinder 4 injector calibration data held in the engine control module is different to that read from the injector ■ Cylinder 4 injector calibration data not stored/programmed ■ Engine control module failure	■ Using the Jaguar Land Rover approved diagnostic system, reprogram injector codes. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest. Using the Jaguar Land Rover approved diagnostic system, re-configure the engine control module with the latest level software ■ Check and install a new engine control module as required
P268F-51	Cylinder 4 Injector Data Incompatible - Not programmed	■ The engine control module has indicated that programming is required ■ Cylinder 4 injector calibration data not stored/programmed ■ Engine control module failure	■ Using the Jaguar Land Rover approved diagnostic system, reprogram injector codes. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest. Using the Jaguar Land Rover approved diagnostic system, re-configure the engine control module with the latest level software ■ Check and install a new engine control module as required
P2690-00	Cylinder 5 Injector Data Incompatible - No sub type information	■ Cylinder 5 injector calibration data held in the engine control module is different to that read from the injector ■ Cylinder 5 injector calibration data not stored/programmed ■ Engine control module failure	■ Using the Jaguar Land Rover approved diagnostic system, reprogram injector codes. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest. Using the Jaguar Land Rover approved diagnostic system, re-configure the engine control module with the latest level software ■ Check and install a new engine control module as required
P2690-51	Cylinder 5 Injector Data Incompatible - Not programmed	■ The engine control module has indicated that programming is required ■ Cylinder 5 injector calibration data not stored/programmed ■ Engine control module failure	■ Using the Jaguar Land Rover approved diagnostic system, reprogram injector codes. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest. Using the Jaguar Land Rover approved diagnostic system, re-configure the engine control module with the latest level software ■ Check and install a new engine control module as required

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P2691-00	Cylinder 6 Injector Data Incompatible - No sub type information	■ Cylinder 6 injector calibration data held in the engine control module is different to that read from the injector ■ Cylinder 6 injector calibration data not stored/programmed ■ Engine control module failure	■ Using the Jaguar Land Rover approved diagnostic system, reprogram injector codes. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest. Using the Jaguar Land Rover approved diagnostic system, re-configure the engine control module with the latest level software ■ Check and install a new engine control module as required
P2691-51	Cylinder 6 Injector Data Incompatible - Not programmed	■ The engine control module has indicated that programming is required ■ Cylinder 6 injector calibration data not stored/programmed ■ Engine control module failure	■ Using the Jaguar Land Rover approved diagnostic system, reprogram injector codes. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest. Using the Jaguar Land Rover approved diagnostic system, re-configure the engine control module with the latest level software ■ Check and install a new engine control module as required
P2A00-16	O2 Circuit Range /Performance (Bank 1, Sensor 1) - Circuit voltage below threshold	**NOTE:** Circuit reference - LPTR_A ■ The engine control module measured a voltage below a specified range but not necessarily a short circuit to ground ■ Harness fault - Pre-catalyst oxygen sensor fault ■ Pre-catalyst oxygen sensor failure	■ This DTC is set when the engine control module detects the voltage on the trim resistor circuit of the pre-catalyst oxygen sensor is less than the voltage threshold. This may be caused by the pre-catalyst oxygen sensor being too hot to operate correctly. Refer to the workshop manual and check the exhaust system and pre-catalyst oxygen sensor harness for sign of mechanical damage. Refer to the electrical circuit diagrams and check all the pre-catalyst oxygen sensor circuits for open circuits, short circuit to power, short circuit to ground, short circuit to other circuits. Check all engine control module power and ground supplies. Repair wiring as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ If no fault found in wiring harness suspect pre-catalyst oxygen sensor failure
P2A00-17	O2 Circuit Range /Performance (Bank 1, Sensor 1) - Circuit voltage above threshold	**NOTE:** Circuit reference - LPTR_A ■ The engine control module measured a voltage above a specified range but not necessarily a short circuit to power ■ Harness fault - Pre-catalyst oxygen sensor fault ■ Pre-catalyst oxygen sensor failure	■ This DTC is set when the engine control module detects the voltage on the trim resistor circuit of the pre-catalyst oxygen sensor is greater than the voltage threshold. This may be caused by the pre-catalyst oxygen sensor being too hot to operate correctly. Refer to the workshop manual and check the exhaust system and pre-catalyst oxygen sensor harness for sign of mechanical damage. Refer to the electrical circuit diagrams and check all the pre-catalyst oxygen sensor circuits for open circuits, short circuit to power, short circuit to ground, short circuit to other circuits. Check all engine control module power and ground supplies. Repair wiring as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ If no fault found in wiring harness suspect pre-catalyst oxygen sensor failure

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
P2A00-26	O2 Circuit Range /Performance (Bank 1, Sensor 1) - Signal rate of change below threshold	**NOTE:** Circuit reference - LPTR_A ■ Harness fault - Pre-catalyst oxygen sensor fault ■ Pre-catalyst oxygen sensor failure	■ This DTC is set when the engine control module detects the voltage on the trim resistor circuit of the pre-catalyst oxygen sensor is greater than the voltage threshold. This may be caused by the pre-catalyst oxygen sensor being too hot to operate correctly. Refer to the workshop manual and check the exhaust system and pre-catalyst oxygen sensor harness for sign of mechanical damage. Refer to the electrical circuit diagrams and check all the pre-catalyst oxygen sensor circuits for open circuits, short circuit to power, short circuit to ground, short circuit to other circuits. Check all engine control module power and ground supplies. Repair wiring as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest ■ If no fault found in wiring harness suspect pre-catalyst oxygen sensor failure
U0001-00	High Speed CAN Communication Bus - No sub type information	■ High speed CAN bus failure ■ High speed CAN bus circuit, short circuit to ground, short circuit to power, open circuit	■ Using the Jaguar Land Rover approved diagnostic system, complete a CAN network integrity test ■ Refer to the electrical circuit diagrams and check high speed CAN network for short circuit to ground, short circuit to power, open circuit
U0001-88	High Speed CAN Communication Bus - Bus off	■ High speed CAN bus failure ■ High speed CAN bus circuit, short circuit to ground, short circuit to power, open circuit	■ Using the Jaguar Land Rover approved diagnostic system, complete a CAN network integrity test ■ Refer to the electrical circuit diagrams and check high speed CAN network for short circuit to ground, short circuit to power, open circuit
U0101-00	Lost Communication with TCM - No sub type information	■ The engine control module has not received the expected CAN signal from the transmission control module within the specified time interval ■ CAN harness link between engine control module and transmission control module network malfunction	■ Using the Jaguar Land Rover approved diagnostic system, check transmission control module for DTCs and refer to the relevant DTC index ■ Using the Jaguar Land Rover approved diagnostic system, complete a CAN network integrity test. Refer to the electrical circuit diagrams and check transmission control module power and ground circuits for open circuit. Check CAN harness between engine control module and transmission control module, repair as necessary
U0101-26	Lost Communication with TCM - Signal rate of change below threshold	■ The engine control module has not received the expected CAN signal from the transmission control module within the specified time interval ■ CAN harness link between engine control module and transmission control module network malfunction	■ Using the Jaguar Land Rover approved diagnostic system, check transmission control module for DTCs and refer to the relevant DTC index ■ Using the Jaguar Land Rover approved diagnostic system, complete a CAN network integrity test. Refer to the electrical circuit diagrams and check transmission control module power and ground circuits for open circuit. Check CAN harness between engine control module and transmission control module, repair as necessary

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
U0102-00	Lost Communication with Transfer Case Control Module - No sub type information	■ The engine control module has not received the expected CAN signal from the transfer case control module within the specified time interval ■ CAN harness link between engine control module and transfer case control module network malfunction	■ Using the Jaguar Land Rover approved diagnostic system, check transfer case control module for DTCs and refer to the relevant DTC index ■ Using the Jaguar Land Rover approved diagnostic system, complete a CAN network integrity test. Refer to the electrical circuit diagrams and check transfer case control module power and ground circuits for open circuit. Check CAN harness between engine control module and transfer case control module, repair as necessary
U0103-00	Lost Communication With Gear Shift Control Module A - No sub type information	■ The engine control module has not received the expected CAN signal from the gear shift module (automatic transmission selector) within the specified time interval ■ CAN harness link between engine control module and gear shift module (automatic transmission selector) network malfunction	■ Using the Jaguar Land Rover approved diagnostic system, check gear shift module (automatic transmission selector) for DTCs and refer to the relevant DTC index ■ Using the Jaguar Land Rover approved diagnostic system, complete a CAN network integrity test. Refer to the electrical circuit diagrams and check gear shift module (automatic transmission selector) power and ground circuits for open circuit. Check CAN harness between engine control module and gear shift module (automatic transmission selector), repair as necessary
U0104-00	Lost Communication With Cruise Control Module - No sub type information	■ The engine control module has not received the expected CAN signal from the speed control module within the specified time interval ■ CAN harness link between engine control module and speed control module network malfunction	■ Using the Jaguar Land Rover approved diagnostic system, check speed control module for DTCs and refer to the relevant DTC index ■ Using the Jaguar Land Rover approved diagnostic system, complete a CAN network integrity test. Refer to the electrical circuit diagrams and check speed control module power and ground circuits for open circuit. Check CAN harness between engine control module and speed control module, repair as necessary
U0120-00	Lost Communication with Starter/ Generator Control Module - No sub type information	■ The engine control module has not received the expected CAN signal from the anti-lock brake system control module within the specified time interval ■ CAN harness link between engine control module and anti-lock brake system control module network malfunction	■ Using the Jaguar Land Rover approved diagnostic system, check anti-lock brake system control module for DTCs and refer to the relevant DTC index ■ Using the Jaguar Land Rover approved diagnostic system, complete a CAN network integrity test. Refer to the electrical circuit diagrams and check anti-lock brake system control module power and ground circuits for open circuit. Check CAN harness between engine control module and anti-lock brake system control module, repair as necessary
U0121-00	Lost Communication With Anti-Lock Brake System (ABS) Control Module - No sub type information	■ The engine control module has not received the expected CAN signal from the anti-lock brake system control module within the specified time interval ■ CAN harness link between engine control module and anti-lock brake system control module network malfunction	■ Using the Jaguar Land Rover approved diagnostic system, check anti-lock brake system control module for DTCs and refer to the relevant DTC index ■ Using the Jaguar Land Rover approved diagnostic system, complete a CAN network integrity test. Refer to the electrical circuit diagrams and check anti-lock brake system control module power and ground circuits for open circuit. Check CAN harness between engine control module and anti-lock brake system control module, repair as necessary

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
U0126-00	Lost Communication With Steering Angle Sensor Module - No sub type information	■ The engine control module has not received the expected CAN signal from the Steering Angle Sensor within the specified time interval ■ CAN harness link between engine control module and Steering Angle Sensor network malfunction	■ Using the Jaguar Land Rover approved diagnostic system, check Steering Angle Sensor for DTCs and refer to the relevant DTC index ■ Using the Jaguar Land Rover approved diagnostic system, complete a CAN network integrity test. Refer to the electrical circuit diagrams and check Steering Angle Sensor power and ground circuits for open circuit. Check CAN harness between engine control module and Steering Angle Sensor, repair as necessary
U0128-00	Lost Communication With Park Brake Control Module - No sub type information	■ The engine control module has not received the expected CAN signal from the parking brake control module within the specified time interval ■ CAN harness link between engine control module and parking brake control module network malfunction	■ Using the Jaguar Land Rover approved diagnostic system, check parking brake control module for DTCs and refer to the relevant DTC index ■ Using the Jaguar Land Rover approved diagnostic system, complete a CAN network integrity test. Refer to the electrical circuit diagrams and check parking brake control module power and ground circuits for open circuit. Check CAN harness between engine control module and parking brake control module, repair as necessary
U012A-00	Lost Communication with Chassis Control Module "A" - No sub type information	■ The engine control module has not received the expected CAN signal from the integrated suspension control module within the specified time interval ■ CAN harness link between engine control module and integrated suspension control module network malfunction	■ Using the Jaguar Land Rover approved diagnostic system, check integrated suspension control module for DTCs and refer to the relevant DTC index ■ Using the Jaguar Land Rover approved diagnostic system, complete a CAN network integrity test ■ Refer to the electrical circuit diagrams and check integrated suspension control module power and ground circuits for open circuit ■ Check CAN harness between engine control module and integrated suspension control module, repair as necessary
U0131-00	Lost Communication With Power Steering Control Module - No sub type information	■ The engine control module has not received the expected CAN signal from the power steering control module within the specified time interval ■ CAN harness link between engine control module and power steering control module network malfunction	■ Using the Jaguar Land Rover approved diagnostic system, check power steering control module for DTCs and refer to the relevant DTC index ■ Using the Jaguar Land Rover approved diagnostic system, complete a CAN network integrity test. Refer to the electrical circuit diagrams and check power steering control module power and ground circuits for open circuit. Check CAN harness between engine control module and power steering control module, repair as necessary
U0133-00	Lost Communication With Active Roll Control Module - No sub type information	■ The engine control module has not received the expected CAN signal from the active roll control module within the specified time interval ■ CAN harness link between engine control module and active roll control module network malfunction	■ Using the Jaguar Land Rover approved diagnostic system, check active roll control module for DTCs and refer to the relevant DTC index ■ Using the Jaguar Land Rover approved diagnostic system, complete a CAN network integrity test. Refer to the electrical circuit diagrams and check active roll control module power and ground circuits for open circuit. Check CAN harness between engine control module and active roll control module, repair as necessary

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
U0138-00	Lost Communication with All Terrain Control Module - No sub type information	■ The engine control module has not received the expected CAN signal from the all terrain control module within the specified time interval ■ CAN harness link between engine control module and all terrain control module network malfunction	■ Using the Jaguar Land Rover approved diagnostic system, check all terrain control module for DTCs and refer to the relevant DTC index ■ Using the Jaguar Land Rover approved diagnostic system, complete a CAN network integrity test. Refer to the electrical circuit diagrams and check all terrain control module power and ground circuits for open circuit. Check CAN harness between engine control module and all terrain control module, repair as necessary
U0140-00	Lost Communication With Central Body Control Module - No sub type information	■ The engine control module has not received the expected CAN signal from the central junction box within the specified time interval ■ CAN harness link between engine control module and central junction box network malfunction	■ Using the Jaguar Land Rover approved diagnostic system, check central junction box for DTCs and refer to the relevant DTC index ■ Using the Jaguar Land Rover approved diagnostic system, complete a CAN network integrity test. Refer to the electrical circuit diagrams and check central junction box power and ground circuits for open circuit. Check CAN harness between engine control module and central junction box, repair as necessary
U0146-00	Lost Communication With Gateway "A" - No sub type information	■ The engine control module has not received the expected CAN signal from the gateway control module within the specified time interval ■ CAN harness link between engine control module and gateway control module network malfunction	■ Using the Jaguar Land Rover approved diagnostic system, check gateway control module for DTCs and refer to the relevant DTC index ■ Using the Jaguar Land Rover approved diagnostic system, complete a CAN network integrity test ■ Refer to the electrical circuit diagrams and check gateway control module power and ground circuits for open circuit ■ Check CAN harness between engine control module and gateway control module, repair as necessary
U0151-00	Lost Communication With Restraints Control Module - No sub type information	■ The engine control module has not received the expected CAN signal from the restraints control module within the specified time interval ■ CAN harness link between engine control module and restraints control module network malfunction	■ Using the Jaguar Land Rover approved diagnostic system, check restraints control module for DTCs and refer to the relevant DTC index ■ Using the Jaguar Land Rover approved diagnostic system, complete a CAN network integrity test. Refer to the electrical circuit diagrams and check restraints control module power and ground circuits for open circuit. Check CAN harness between engine control module and restraints control module, repair as necessary
U0151-08	Lost Communication With Restraints Control Module - Bus Signal /Message Failures	■ The engine control module has not received the expected CAN signal from the restraints control module within the specified time interval ■ CAN harness link between engine control module and restraints control module network malfunction	■ Using the Jaguar Land Rover approved diagnostic system, check restraints control module for DTCs and refer to the relevant DTC index ■ Using the Jaguar Land Rover approved diagnostic system, complete a CAN network integrity test. Refer to the electrical circuit diagrams and check restraints control module power and ground circuits for open circuit. Check CAN harness between engine control module and restraints control module, repair as necessary

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
U0155-00	Lost Communication With Instrument Panel Cluster (IPC) Control Module - No sub type information	■ The engine control module has not received the expected CAN signal from the instrument cluster within the specified time interval ■ CAN harness link between engine control module and instrument cluster network malfunction	■ Using the Jaguar Land Rover approved diagnostic system, check instrument cluster for DTCs and refer to the relevant DTC index ■ Using the Jaguar Land Rover approved diagnostic system, complete a CAN network integrity test. Refer to the electrical circuit diagrams and check instrument cluster power and ground circuits for open circuit. Check CAN harness between engine control module and instrument cluster, repair as necessary
U0159-00	Lost Communication With Parking Assist Control Module "A" - No sub type information	■ The engine control module has not received the expected CAN signal from the park distance control module within the specified time interval ■ CAN harness link between engine control module and park distance control module network malfunction	■ Using the Jaguar Land Rover approved diagnostic system, check park distance control module for DTCs and refer to the relevant DTC index ■ Using the Jaguar Land Rover approved diagnostic system, complete a CAN network integrity test ■ Refer to the electrical circuit diagrams and check park distance control module power and ground circuits for open circuit ■ Check CAN harness between engine control module and park distance control module, repair as necessary
U0164-00	Lost Communication With HVAC Control Module - No sub type information	■ Power distribution system fault - Fuse fault ■ CAN network fault ■ Heating ventilation air and conditioning control module fault	■ This DTC is set if the engine control module loses communication with the heating ventilation air and conditioning control module. Check the heating ventilation air and conditioning control module for DTCs and refer to the relevant DTC index ■ Refer to the electrical circuit diagrams and check the power supply and ground connections to the heating ventilation air and conditioning control module ■ Using the Jaguar Land Rover approved diagnostic system, carry out a network integrity test. Refer to electrical circuit diagrams and check CAN circuits if required. Repair wiring harness as required ■ If there are no faults in the wiring harness and network communications suspect the heating ventilation air and conditioning control module
U0167-00	Lost Communication With Vehicle Immobilizer Control Module - No sub type information	■ Engine control module identity transfer failed	■ Check the immobilizer control module for DTCs and refer to the relevant DTC index. Refer to the electrical circuit diagrams and check the power supply and ground connections to the immobilizer control module. Using the Jaguar Land Rover approved diagnostic system, carry out a network integrity test. Refer to electrical circuit diagrams and check CAN circuits if required. Repair wiring harness as required ■ If there are no faults in the wiring harness and network communications suspect the immobilizer control module

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
U0300-00	Internal Control Module Software Incompatibility - No sub type information	■ CAN network fault ■ Central junction box fault ■ Car configuration file incorrect	■ Using the Jaguar Land Rover approved diagnostic system, carry out a network integrity test. Refer to electrical circuit diagrams and check CAN circuits if required. Repair wiring as required ■ Car configuration signal not received. Check central junction box for DTCs and refer to the relevant DTC index ■ Using the Jaguar Land Rover approved diagnostic system, check and up-date the car configuration file as required
U0402-00	Invalid Data Received from TCM - No sub type information	■ CAN network failure ■ Implausible CAN data received from transmission control module	■ Check transmission control module for related DTCs and refer to relevant DTC index ■ Using the Jaguar Land Rover approved diagnostic system, complete a CAN network integrity test. Refer to electrical circuit diagrams and check CAN circuits if required. Repair harness as required
U0402-83	Invalid Data Received from TCM - Value of signal protection calculation incorrect	■ The engine control module has indicated that a message was processed with an incorrect protection (checksum) calculation ■ CAN network failure ■ Implausible CAN data received from transmission control module	■ Check transmission control module for related DTCs and refer to relevant DTC index ■ Using the Jaguar Land Rover approved diagnostic system, complete a CAN network integrity test. Refer to electrical circuit diagrams and check CAN circuits if required. Repair harness as required
U0404-68	Invalid Data Received from Gear Shift Control Module A - Event information	■ The engine control module indicated the detection of a system event that was not caused by the engine control module itself but forced the engine control module to store the DTC e.g. missing functionality from another system or control module ■ CAN network failure ■ Implausible CAN data received from transmission control switch	■ Check transmission control switch for related DTCs and refer to relevant DTC index ■ Using the Jaguar Land Rover approved diagnostic system, complete a CAN network integrity test. Refer to electrical circuit diagrams and check CAN circuits if required. Repair harness as required
U0405-68	Invalid Data Received From Cruise Control Module - Event information	■ The engine control module indicated the detection of a system event that was not caused by the engine control module itself but forced the engine control module to store the DTC e.g. missing functionality from another system or control module ■ Speed control system fault	■ Check speed control module for related DTCs and refer to relevant DTC index ■ Refer to the electrical circuit diagrams and check the power supply and ground connections to the speed control module ■ Using the Jaguar Land Rover approved diagnostic system, carry out a network integrity test. Refer to electrical circuit diagrams and check CAN circuits if required. Repair wiring as required ■ If no wiring or network faults found suspect speed control module

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
U0405-82	Invalid Data Received From Cruise Control Module - Alive /sequence counter incorrect/not updated	■ The engine control module has indicated that a signal was received without the corresponding rolling count value being properly updated ■ Speed control system fault ■ Harness fault - CAN circuits ■ Harness fault - Speed control module power supply or ground failure	■ Check speed control buttons are not jammed /contaminated/damaged. Check speed control module for related DTCs and refer to the relevant DTC index ■ Using the Jaguar Land Rover approved diagnostic system, carry out a network integrity test. Refer to electrical circuit diagrams and check CAN circuits if required. Repair wiring as required ■ Refer to the electrical circuit diagrams and check the power supply and ground connections to the speed control module ■ If no wiring or network faults found suspect speed control module
U0405-84	Invalid Data Received From Cruise Control Module - Signal below allowable range	■ The engine control module has determined failures where some circuit quantity, reported via serial data, is below a specified range ■ Speed control system fault	■ Check speed control module for related DTCs and refer to relevant DTC index ■ Refer to the electrical circuit diagrams and check the power supply and ground connections to the speed control module ■ Using the Jaguar Land Rover approved diagnostic system, carry out a network integrity test. Refer to electrical circuit diagrams and check CAN circuits if required. Repair wiring as required ■ If no wiring or network faults found suspect speed control module
U0405-86	Invalid Data Received From Cruise Control Module - Signal invalid	■ The engine control module has determined failures where some circuit quantity, reported via serial data, is not plausible given the operating conditions ■ Speed control system fault	■ Check speed control buttons are not jammed /contaminated/damaged. Check speed control module for related DTCs and refer to the relevant DTC index
U0407-00	Invalid Data Received From Glow Plug Control Module - No sub type information	■ This DTC is set when the glow plug module does not match what is expected by the engine control module. Detection of the coding word is complete when 2 of 3 coding words match. This process is a one time operation and will be completed during assembly of the vehicle	■ Check the correct glow plug module is installed to the vehicle
U0407-81	Invalid Data Received From Glow Plug Control Module - Invalid serial data received	■ The engine control module has indicated a signal was received with the corresponding validity bit equal to "invalid" or post processing of the signal determines it is invalid ■ Glow plug control system fault	■ Refer to electrical circuit diagrams and check the power supply and ground connections to the glow plug control module. Check the diagnostic circuit between the engine control module and the glow plug control module for intermittent faults, short circuits, open circuits. Clear the DTC and recheck the system ■ If the DTC recurs suspect the glow plug control module

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
U0415-68	Invalid Data Received From Anti-Lock Brake System (ABS) Control Module - Event information	■ The engine control module indicated the detection of a system event that was not caused by the engine control module itself but forced the engine control module to store the DTC e.g. missing functionality from another system or control module ■ Signal error for vehicle speed over CAN	■ Using the Jaguar Land Rover approved diagnostic system, check anti-lock brake system control module for DTCs and refer to the relevant DTC index
U0416-46	Invalid Data Received From Vehicle Dynamics Control Module - Calibration /parameter memory failure	■ Anti-lock brake system fault	■ Using the Jaguar Land Rover approved diagnostic system, check anti-lock brake system control module for DTCs and refer to the relevant DTC index
U0416-68	Invalid Data Received From Vehicle Dynamics Control Module - Event information	■ The engine control module indicated the detection of a system event that was not caused by the engine control module itself but forced the engine control module to store the DTC e.g. missing functionality from another system or control module ■ The engine control module has received the default brake pressure signal value over CAN from the anti-lock brake system control module for a specified time interval ■ Anti-lock brake system fault ■ CAN harness link between engine control module and anti-lock brake system control module network malfunction	■ Using the Jaguar Land Rover approved diagnostic system, check anti-lock brake system control module for DTCs and refer to the relevant DTC index ■ Using the Jaguar Land Rover approved diagnostic system, complete a CAN network integrity test. Refer to the electrical circuit diagrams and check anti-lock brake system control module power and ground circuits for open circuit. Check CAN harness between engine control module and anti-lock brake system control module, repair as necessary ■ Clear the DTCs, drive the vehicle at greater than 11mph (17kph) with a throttle pedal greater than 10% for greater than 1 second. Press the brake pedal, using maximum travel for greater than 1 second. Check the system is operating correctly and the DTC does not return
U0416-92	Invalid Data Received From Vehicle Dynamics Control Module - Performance or incorrect operation	■ The engine control module has detected that the component performance is outside its expected range or operating in an incorrect way ■ Difference between anti-lock brake system speed signal value and instrument cluster speed value at low vehicle speeds	Check the anti-lock brake system control module for DTCs and refer to the relevant DTC index

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
U0424-00	Invalid Data Received From HVAC Control Module - No sub type information	■ The engine control module has not received the expected CAN signal from the automatic temperature control module within the specified time interval ■ CAN harness link between engine control module and automatic temperature control module network malfunction	■ Using the Jaguar Land Rover approved diagnostic system, check automatic temperature control module for DTCs and refer to the relevant DTC index ■ Using the Jaguar Land Rover approved diagnostic system, complete a CAN network integrity test ■ Refer to the electrical circuit diagrams and check automatic temperature control module power and ground circuits for open circuit ■ Check CAN harness between engine control module and automatic temperature control module, repair as necessary
U0424-68	Invalid Data Received From HVAC Control Module - Event information	■ The engine control module indicated the detection of a system event that was not caused by the engine control module itself but forced the engine control module to store the DTC e.g. missing functionality from another system or control module ■ Power distribution system fault - Fuse fault ■ CAN network fault ■ Heating ventilation air and conditioning control module fault	■ This DTC is set if the engine control module loses communication with the heating ventilation air and conditioning control module. Check the heating ventilation air and conditioning control module for DTCs and refer to the relevant DTC index ■ Refer to the electrical circuit diagrams and check the power supply and ground connections to the heating ventilation air and conditioning control module ■ Using the Jaguar Land Rover approved diagnostic system, carry out a network integrity test. Refer to electrical circuit diagrams and check CAN circuits if required. Repair wiring harness as required ■ If there are no faults in the wiring harness and network communications suspect the heating ventilation air and conditioning control module
U0426-00	Invalid Data Received From Vehicle Immobilizer Control Module - No sub type information	■ Immobilizer control module has received an invalid identity response ■ Module substituted	■ Using the Jaguar Land Rover approved diagnostic system, carry out a network integrity test. Refer to electrical circuit diagrams and check CAN circuits if required. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, check and up-date the car configuration file as required ■ Ensure all modules installed in the vehicle which store vehicle identity are valid for this vehicle and are not substitutes from a donor vehicle
U0447-00	Invalid Data Received From Gateway "A" - No sub type information	**NOTE:** **Monitor description.** Engine control module has been informed of a failure within the dual battery system ■ Connector is disconnected, connector pin is backed out, connector pin corrosion ■ Harness failure - Dual battery system ■ Harness failure - Gateway module	■ Check the gateway module for DTCs and refer to the relevant DTC index ■ Inspect connectors for signs of water ingress and pins for damage and/or corrosion ■ Refer to the electrical circuit diagrams and check dual battery system ■ Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the ‘Diagnosis Menu’ tab and retest

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
U0452-00	Invalid Data Received From Restraints Control Module - No sub type information	**NOTE:** **Monitor description.** Engine control module has been informed of a failure within the seat belt sensor ■ Connector is disconnected, connector pin is backed out, connector pin corrosion ■ Harness failure - Seat belt sensor ■ Harness failure - Gateway module	■ Check the restraints control module for DTCs and refer to the relevant DTC index ■ Inspect connectors for signs of water ingress and pins for damage and/or corrosion ■ Refer to the electrical circuit diagrams and check seat belt sensor circuit ■ Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest
U0A1A-87	LIN Bus "A" - Missing message	■ Generator LIN bus communication circuit failure	■ Refer to the electrical circuit diagrams and check the generator LIN bus circuit, for short circuit to power, short circuit to ground, open circuit. Repair wiring harness as required. Using the Jaguar Land Rover approved diagnostic system, clear all stored DTCs using the 'Diagnosis Menu' tab and retest
U1A14-00	CAN Initialization Failure - No sub type information	■ Harness fault - CAN circuit fault	■ Using the Jaguar Land Rover approved diagnostic system, carry out a network integrity test. Refer to electrical circuit diagrams and check CAN circuits if required. Repair wiring harness as required
U2005-64	Vehicle Speed - Signal plausibility failure	■ The engine control module detected plausibility failures ■ Anti-lock brake system fault	■ This DTC is set when the engine control module has recognised a vehicle speed signal plausibility fault. Check the anti-lock brake system module for related DTCs and refer to the relevant DTC index. Check the instrument cluster for related DTCs and refer to the relevant DTC index. Using the Jaguar Land Rover approved diagnostic system, carry out a network integrity test. Refer to electrical circuit diagrams and check CAN circuits if required. Repair wiring harness as required
U2005-84	Vehicle Speed - Below allowable range	■ The engine control module has determined failures where some circuit quantity, reported via serial data, is below a specified range ■ Anti-lock brake system fault	■ This DTC is set when the engine control module has recognised a vehicle speed signal which is below the allowable range. Check the anti-lock brake system module for related DTCs and refer to the relevant DTC index. Check the instrument cluster for related DTCs and refer to the relevant DTC index. Using the Jaguar Land Rover approved diagnostic system, carry out a network integrity test. Refer to electrical circuit diagrams and check CAN circuits if required. Repair wiring harness as required

DTC	DESCRIPTION	POSSIBLE CAUSES	ACTION
U2005-85	Vehicle Speed - Above allowable range	■ The engine control module has determined failures where some circuit quantity, reported via serial data, is above a specified range ■ Anti-lock brake system fault	■ This DTC is set when the engine control module has recognised a vehicle speed signal which is above the allowable range. Check the anti-lock brake system module for related DTCs and refer to the relevant DTC index. Check the instrument cluster for related DTCs and refer to the relevant DTC index. Using the Jaguar Land Rover approved diagnostic system, carry out a network integrity test. Refer to electrical circuit diagrams and check CAN circuits if required. Repair wiring harness as required
U2108-00	Adaptive Cruise Control - No sub type information	■ Adaptive speed control system fault - Error indicating adaptive speed control fault flag set	■ Check adaptive speed control for DTCs and refer to the relevant DTC index. Using the Jaguar Land Rover approved diagnostic system, carry out a network integrity test. Refer to electrical circuit diagrams and check CAN circuits if required. Repair wiring harness as required
U2108-24	Adaptive Cruise Control - Signal stuck high	■ The engine control module measures a signal that remains high when transitions are expected ■ Adaptive speed control system fault - Adaptive speed control follow speed error	■ Check adaptive speed control for DTCs and refer to the relevant DTC index. Using the Jaguar Land Rover approved diagnostic system, carry out a network integrity test. Refer to electrical circuit diagrams and check CAN circuits if required. Repair wiring harness as required
U2108-64	Adaptive Cruise Control - Signal plausibility failure	■ The engine control module detected plausibility failures ■ Adaptive speed control system fault - Adaptive speed control follow speed range error	■ Check adaptive speed control for DTCs and refer to the relevant DTC index. Using the Jaguar Land Rover approved diagnostic system, carry out a network integrity test. Refer to electrical circuit diagrams and check CAN circuits if required. Repair wiring harness as required
U2108-68	Adaptive Cruise Control - Event information	■ The engine control module indicated the detection of a system event that was not caused by the engine control module itself but forced the engine control module to store the DTC e.g. missing functionality from another system or control module ■ Adaptive speed control system fault - Error indicating adaptive speed control follow speed check when stationary	■ Check adaptive speed control for DTCs and refer to the relevant DTC index. Using the Jaguar Land Rover approved diagnostic system, carry out a network integrity test. Refer to electrical circuit diagrams and check CAN circuits if required. Repair wiring harness as required
U2108-86	Adaptive Cruise Control - Signal invalid	■ The engine control module has determined failures where some circuit quantity, reported via serial data, is not plausible given the operating conditions ■ Adaptive speed control system fault - Error when invalid adaptive speed control resume requests are present	■ Check adaptive speed control for DTCs and refer to the relevant DTC index. Using the Jaguar Land Rover approved diagnostic system, carry out a network integrity test. Refer to electrical circuit diagrams and check CAN circuits if required. Repair wiring harness as required