Range Rover P38A V8 OBD Fault Codes

Applies to

Disco II

Notes about this list. When compiling this list, there were a number of inconsistencies and errors in Rover manuals. I have made every attempt to correct anything that did not look accurate or consistent with the other manuals and/or documentation available to create this list. This is meant to be used a resource for when you do not have access to an authorized LR dealer or other official documentation and need to quickly assess and troubleshoot a problem. Please email any corrections or feedback to flrc@erovers.com

Range Rover V8 Up to Model Year 1999

Crankshaft position (CKP) sensor - (up to 99MY)

P0335 -Crankshaft sensor circuit fault - no signal

P0336 -Crankshaft sensor generating poor quality signal

Camshaft position (CMP) sensor - (up to 99MY)

P0340 - Camshaft sensor circuit fault or signal timing different from crankshaft sensor signal.

Throttle Position (TP) sensor - (up to 99MY)

P0121 - Throttle potentiometer signal inconsistent with MAF, IACV, air temperature and engine rpm.

P0122 - Throttle potentiometer circuit low input

P0123 - Throttle potentiometer circuit high input

Engine Coolant Temperature (ECT) sensor - (up to 99MY)

P0116 - Coolant temperature sensor - falling temperature fault

P0117 - Coolant temperature sensor circuit low range fault

P0118 - Coolant temperature sensor circuit high range fault

P0125 - Coolant temperature sensor - no warm-up fault

Engine Fuel Temperature (EFT) sensor - (up to 99MY)

P0181 - Fuel temperature sensor fault - reading invalid compared with water temperature

P0182 - Fuel temperature sensor circuit low range fault

P0183 - Fuel temperature sensor circuit high range fault

Knock Sensors (KS) - up to 99MY

P0331 - Continuous knock on bank B

P0332 - Knock background noise low, bank B

P0333 - Knock background noise high, bank B

P0326 - Continuous knock on bank A

P0327 - Knock background noise low, bank A

P0328 - Knock background noise high, bank A

Fuel injectors - (up to 99MY)

P0201 - Injector circuit fault, cylinder 1

P0202 - Injector circuit fault, cylinder 2

P0203 - Injector circuit fault, cylinder 3

P0204 - Injector circuit fault, cylinder 4

P0205 - Injector circuit fault, cylinder 5

P0206 - Injector circuit fault, cylinder 6

P0207 - Injector circuit fault, cylinder 7

Range Rover P38A V8 OBD Fault Codes

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P0208 - Injector circuit fault, cylinder 8
P1201 - Injector circuit open or ground short, cylinder 1
P1202 - Injector circuit open or ground short, cylinder 2
P1203 - Injector circuit open or ground short, cylinder 3
P1204 - Injector circuit open or ground short, cylinder 4
P1205 - Injector circuit open or ground short, cylinder 5
P1206 - Injector circuit open or ground short, cylinder 6
P1207 - Injector circuit open or ground short, cylinder 7
P1208 - Injector circuit open or ground short, cylinder 8

Idle Air Control (IAC) valve - up to 99MY

P0506 - Low idle speed
P0507 - High idle speed
P1508 - IACV stepper motor open circuit
P1509 - IACV stepper motor short circuit

Heated Oxygen Sensor (HO2S) - up to 99MY

P0130 - Oxygen sensor circuit slow response, upstream sensor bank A
P0136 - Oxygen sensor circuit slow response, upstream sensor bank A
P0150 - Oxygen sensor circuit slow response, upstream sensor bank B
P0156 - Oxygen sensor circuit slow response, upstream sensor bank B
P0131 - Oxygen sensor circuit low voltage, upstream sensor bank A
P0151 - Oxygen sensor circuit low voltage, upstream sensor bank B
P0137 - Oxygen sensor circuit low voltage, downstream sensor bank A
P0157 - Oxygen sensor circuit low voltage, downstream sensor bank B
P0132 - Oxygen sensor circuit high voltage, upstream sensor bank A
P0152 - Oxygen sensor circuit high voltage, upstream sensor bank B
P0138 - Oxygen sensor circuit high voltage, downstream sensor bank A
P0158 - Oxygen sensor circuit high voltage, downstream sensor bank B
P0133 - Oxygen sensor circuit slow response, upstream sensor bank A
P0153 - Oxygen sensor circuit slow response, upstream sensor bank B
P0139 - Oxygen sensor circuit slow response, downstream sensor bank A
P0159 - Oxygen sensor circuit slow response, downstream sensor bank B
P1138 - Oxygen sensor problem with switching lean, sensor(s) for bank A
P1158 - Oxygen sensor problem with switching lean, sensor(s) for bank B
P1137 - Oxygen sensor problem with switching rich, sensor(s) for bank A
P1157 - Oxygen sensor problem with switching rich, sensor(s) for bank B
P1139 - Oxygen sensor circuit switching period too long bank A
P1159 - Oxygen sensor circuit switching period too long bank B
P1171 - System too lean bank A and bank B
P1172 - System too rich bank A and bank B
P0171 - System too lean bank A
P0174 - System too lean bank B
P0172 - System too rich bank A
P0175 - System too rich bank B
P1185 - Oxygen sensor heater circuit open circuit, upstream sensors

Range Rover P38A V8 OBD Fault Codes

Applies to

Disco II

P1186 - Oxygen sensor heater circuit short circuit, upstream sensors
P1187 - Oxygen sensor heater circuit inferred open circuit, upstream sensors
P1188 - Oxygen sensor heater circuit high resistance, upstream sensors
P1189 - Oxygen sensor heater circuit inferred low resistance, upstream sensors
P1190 - Oxygen sensor heater circuit low resistance, upstream sensors
P1191 - Oxygen sensor heater circuit open circuit, downstream sensors
P1192 - Oxygen sensor heater circuit short circuit, downstream sensors
P1193 - Oxygen sensor heater circuit inferred open circuit, downstream sensors
P1194 - Oxygen sensor heater circuit high resistance, downstream sensors
P1195 - Oxygen sensor heater circuit inferred low resistance, downstream sensors
P1196 - Oxygen sensor heater circuit low resistance, downstream sensors
P0420 - Catalyst efficiency is low, bank A
P0430 - Catalyst efficiency is low, bank B

Advanced Evaporative Emissions System - 98MY to 99MY (NAS only)

P1440 - Purge valve stuck open.
P0442 - Evaporative loss control system - small leak
P0448 - Evaporative loss control system - major leak
P0496 - Evaporative loss control system - major
P0446 - Purge canister closure valve information
P1447 - Purge canister closure valve - poor performance

Fuel Tank Pressure Sensor

P0451 - Fuel tank pressure sensor poor performance fault
P0452 - Fuel tank pressure sensor low range fault
P0453 - Fuel tank pressure sensor high range fault

EVAP Canister Purge Valve

P0441 - Purge valve flow fault
P0443 - Purge valve open or short circuit

Engine Speed Signal

P1775 - Gearbox has signalled a fault condition to the ECM
P1776 - Gearbox ignition retard request duration fault
P1777 - Gearbox ignition retard request line fault

Range Rover P38A V8 OBD Fault Codes

Applies to

Disco II

V8 Model Year 1999 and up (and Discovery II)

Camshaft Position (CMP) sensor - (from 99MY)	
P0335 - (reference mark is outside search window with engine speed above 500 rev/min for more than 2 revolutions.	**X**
P0336 - (incorrect number of teeth detected ± 1 tooth between reference marks with engine speed above 500 rev/min.	**X**
P0340 - (Signal open & short circuit to vehicle supply or ground).	
Mass Air Flow (MAF) and Intake Air Temperature (IAT) sensor - (from 99MY)	
P0102 - (MAF signal less than the speed dependent minimum threshold).	**X**
P0103 - (MAF signal greater than the speed dependent maximum threshold).	**X**
P0112 - (air temperature signal is less than the minimum threshold - after a sufficient time (more than three minutes) for exhaust warm-up has been allowed).	**X**
P0113 - (air temperature signal greater than the maximum threshold).	**X**
Throttle Position (TP) sensor - (from 99MY)	
P0101 - (load monitoring, the ratio of throttle position to air flow).	**X**
P0122 - (signal less than the minimum threshold).	**X**
P0123 - (signal greater than the maximum threshold).	**X**
Engine Coolant Temperature (ECT) sensor - (from 99MY)	
P0116 - (Signal differs too much from temperature model for longer than 2.54s)	**X**
P0117 - (Open circuit or short circuit to battery supply)	**X**
P0118 - (Short circuit to ground)	**X**
Knock Sensors (KS) - from 99MY	
P0327 - (LH bank signal less than the threshold value determined from the ECM model above 2200 rpm)	**X**
P0328 - (LH bank signal greater than the threshold value determined from the ECM model above 2200 rpm)	**X**
P0332 - (RH bank signal less than the threshold value determined from the ECM model above 2200 rpm)	**X**
P0333 - (RH bank signal greater than the threshold value determined from the ECM model above 2200 rpm)	**X**
Fuel injectors - from 99MY	
All injectors	
P0170 - High leak rate detection	
P0300 to P0308 - Misfire detected excess emissions - blocked or restricted injector	**X**
P1300 to P1308 - Misfire detected catalyst damage - blocked or restricted injector	**X**
Note: Specific P-code number depends on which cylinder(s) is experiencing the fault. It is safe to assume the Discovery II codes below are the same.	**X**
Injector 1	
P0201 - Open circuit	**X**
P0261 - Short circuit to ground	**X**

Range Rover P38A V8 OBD Fault Codes

Taken from Range Rover Manual, copyright 1999 Rover Group Limited.

	Applies to Disco II
P0262 - Short circuit to ground	X
Injector 2	
P0202 - Open circuit	X
P0264 - Short circuit to ground	X
P0265 - Short circuit to ground	X
Injector 3	
P0203 - Open circuit	X
P0267 - Short circuit to ground	X
P0268 - Short circuit to ground	X
Injector 4	
P0204 - Open circuit	X
P0270 - Short circuit to ground	X
P0271 - Short circuit to ground	X
Injector 5	
P0205 - Open circuit	X
P0273 - Short circuit to ground	X
P0274 - Short circuit to ground	X
Injector 6	
P0206 - Open circuit	X
P0276 - Short circuit to ground	X
P0277 - Short circuit to ground	X
Injector 7	
P0207 - Open circuit	X
P0279 - Short circuit to ground	X
P0280 - Short circuit to ground	X
Injector 8	
P0208 - Open circuit	X
P0282 - Short circuit to ground	X
P0283 - Short circuit to ground	X
Idle Air Control Valve (IACV) - from 99MY	
P0505 - Blocked IACV valve - rpm error high or low	X
P1510 - Short circuit to battery supply - opening winding	X
P1513 - Short circuit to ground - opening winding	X
P1514 - Open circuit - opening winding	X
P1553 - Short circuit to battery supply - closing windings	X
P1552 - Short circuit to ground - closing winding	X
P1551 - Open circuit - closing winding	X
Heated Oxygen Sensors (HO2S) - from 99MY	
P1129 - Front heated oxygen sensors transposed	
Upstream (Front) sensor LH bank - electrical (NAS only)	
P0130 - Stoichiometric ratio outside operating band	X
P0132 - Short circuit to battery supply	X
P0134 - Open circuit	X

Range Rover P38A V8 OBD Fault Codes

	Applies to Disco II
Downstream (Rear) sensor LH bank - electrical (NAS only)	
P0136 - Stoichiometric ratio outside operating band	**X**
P0137 - Short circuit to battery supply	**X**
P0138 - Short circuit to ground or chemical shift down	**X**
P0140 - Open circuit	**X**
Upstream (Front) sensor RH bank - electrical (NAS only)	
P0150 - Stoichiometric ratio outside operating band	**X**
P0152 - Short circuit to battery supply	**X**
P0154 - Open circuit	**X**
Downstream (Rear) sensor RH bank - electrical (NAS only)	
P0156- Stoichiometric ratio outside operating band	**X**
P0157 - Short circuit to ground	**X**
P0158 - Short circuit to battery voltage	**X**
P0160 - Open circuit	**X**
Upstream (Front) sensors aged (NAS only)	
P0133 - Upstream sensor aged - Period time too short LH bank	**X**
P0133 - Upstream sensor aged - Period time too long LH bank	**X**
P0153 - Upstream sensor aged - Period time too short RH bank	**X**
P0153 - Upstream sensor aged - Period time too long RH bank	**X**
P1170 - Upstream sensor aged - ATV adaption too lean LH bank	**X**
P1170 - Upstream sensor aged - ATV adaption too rich LH bank	**X**
P1173 - Upstream sensor aged - ATV adaption too lean RH bank	**X**
P1173 - Upstream sensor aged - ATV adaption too rich RH bank	**X**
Sensor Heater faults	
P0135 - Upstream (Front) heater LH bank - Short circuit (NAS only)	**X**
P0135 - Upstream (Front) heater LH bank - Open circuit (NAS only)	**X**
P0141 - Downstream (Rear) heater LH bank - Short circuit	**X**
P0141 - Downstream (Rear) heater LH bank - Open circuit	**X**
P0155 - Upstream (Front) heater RH bank - Short circuit (NAS only)	**X**
P0155 - Upstream (Front) heater RH bank - Open circuit (NAS only)	**X**
P0161 - Downstream (Rear) heater LH bank - Short circuit	**X**
P0161 - Downstream (Rear) heater LH bank - Open circuit	**X**
P0420 - Catalyst efficiency deteriorated LH bank	**X**
P0430 - Catalyst efficiency deteriorated RH bank	**X**
Fuel pump relay - from 99MY	
P1230 - Fuel pump relay open circuit - not the fuel pump itself	**X**
P1231 - Fuel pump relay short circuit to battery supply - not the fuel pump itself	**X**
P1232 - Fuel pump relay short circuit to ground - not the fuel pump itself	**X**
Advanced Evaporative Emissions System - from 99MY (NAS only)	
P0171 - Multiplication fuelling adaption (Max.) exceeded rich limit - LH bank	**X**
P0172 - Multiplication fuelling adaption (Min.) exceeded lean limit - LH bank	**X**
P0174 - Multiplication fuelling adaption (Max.) exceeded rich limit - RH bank	**X**
P0175 - Multiplication fuelling adaption (Min.) exceeded lean limit - RH bank	**X**
P1171 - Additive fuelling adaption (Max.) exceeded rich limit - LH bank	**X**

Range Rover P38A V8 OBD Fault Codes

	Applies to Disco II
P1172 - Additive fuelling adaption (Min.) exceeded lean limit - LH bank	X
P1174 - Additive fuelling adaption (Max.) exceeded rich limit - RH bank	X
P1175 - Additive fuelling adaption (Min.) exceeded lean limit - RH bank	X
P0440 - Purge valve not sealing	X
P0442 - Small leak within system	
P0443 - Purge valve power stage short circuit to battery voltage	X
P0444 - Purge valve power stage open circuit	X
P0445 - Purge valve power stage short circuit to ground	X
P0445 - Large leak within system	
P0446 - CVS valve / filter / pipe blocked	X
P0447 - CVS valve open circuit	X
P0448 - CVS valve short circuit to ground	X
P0449 - CVS valve short circuit to battery voltage	X
P0451 - Fuel tank pressure signal stuck high within range	X
P0452 - Fuel tank pressure signal short circuit to battery voltage (out of range - high)	X
P0453 - Fuel tank pressure sensor signal short circuit to ground or open circuit (out of range - low)	X
P0300 Excess emissions detected on more than one cylinder	X
P1300 Catalyst damaging level of misfire on more than one cylinder	
P1319 P1319 Misfire detected with low fuel level	

Additional codes for Discovery II - The codes below were taken from the Discovery II section of the Workshop Manual. Although they weren't listed under the Range Rover section (at least that I could locate), it is probably a safe assumption that these codes are also valid on the Model Year 1999 and up Range Rover.

Secondary air injection (SAI) vacuum solenoid valve	
P0418 Secondary air injection pump powerstage fault (e.g. - SAI pump relay fault / SAI pump or relay not connected / open circuit / harness damage).	X
P0413 SAI vacuum solenoid valve not connected, open circuit	X
P0414 SAI vacuum solenoid valve short circuit to ground	X
P0412 SAI vacuum solenoid valve powerstage fault - harness damage, short circuit to battery supply voltage	X
P1412 SAI system fault (LH side) - air delivery not reaching catalysts	X
P1414 SAI system fault (LH side) - air delivery not reaching catalysts	X
P1413 SAI system fault (LH side) - air delivery not reaching catalysts	X
P1415 SAI system fault (RH side) - air delivery not reaching catalysts	X
P1417 SAI system fault (RH side) - air delivery not reaching catalysts	X
P1416 SAI system fault (RH side) - air delivery not reaching catalysts	X
Thermostat	
P1117 Thermostat reading below -33 °C (-27 °F)	X
P1118 Thermostat reading above 140 °C (284 °F)	X
P0126 Difference in radiator and engine coolant temperatures too small	X

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	Applies to Disco II
P1129 Front O2 sensors transposed	X
Air Conditioning	
P1535 Air conditioning compressor request malfunction - ATC requested when not in standby mode	X
P1536 Air conditioning compressor request range/ performance - ATC compressor clutch relay open circuit	X
P1537 Air conditioning compressor request low input.ATC compressor clutch relay short to earth	X
P1538 Air conditioning compressor request high input. ATC compressor clutch relay short to battery supply	X
Anti-Theft System and Miscellaneous	
P1666 Engine anti-theft signal circuit malfunction BCU serial link frame/ bit timing error	X
P1667 Serial link short circuit to earth	X
P1668 Serial link open circuit	X
P1672 Secure ECM, received incorrect code	X
P1673 Engine anti-theft signal new engine control module not configured. New ECM fitted	X
P1674 Engine anti-theft signal No code ECM, valid code received	X
P0300 Random/multiple cylinder misfire detected Excess emissions level of misfire on more than one cylinder	X
P0301 Cylinder 1 misfire detected Excess emissions level of misfire detected on No.1 cylinder	X
P0302 Cylin der 2 misfire detected Excess emissions level of misfire detected on cylinder No.2	X
P0303 Cylinder 3 misfire detected Excess emissions level of misfire detected on cylinder No.3	X
P0304 Cylinder 4 misfire detected Excess emissions level of misfire detected on cylinder No.4	X
P0305 Cylinder 5 misfire detected Excess emissions level of misfire detected on cylinder No.5	X
P0306 Cylinder 6 misfire detected Excess emissions level of misfire detected on cylinder No.6	X
P0307 Cylinder 7 misfire detected Excess emissions level of misfire detected on cylinder No.7	X
P0308 Cylinder 8 misfire detected Excess emissions level of misfire detected on cylinder No.8	X
P1300 Catalyst damaging level of misfire on more than one cylinder	X
P1301 No description Catalyst damaging level of misfire detected on cylinder No.1	X
P1302 No description Catalyst damaging level of misfire detected on cylinder No. 2	X
P1303 No description Catalyst damaging level of misfire detected on cylinder No.3	X
P1304 No description Catalyst damaging level of misfire detected on cylinder No.4	X

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	Applies to Disco II
P1305 No description Catalyst damaging level of misfire detected on cylinder No.5	X
P1306 No description Catalyst damaging level of misfire detected on cylinder No.6	X
P1307 No description Catalyst damaging level of misfire detected on cylinder No.7	X
P1308 No description Catalyst damaging level of misfire detected on cylinder No.8	X
P0500 Vehicle speed sensor malfunction VSS short or open circuit	X
P0501 Vehicle speed sensor range/performance VSS implausible	X
P1590 ABS rough road signal circuit malfunction Hardware is OK, but SLABS ECU is signalsending an error	X
P1591 ABS rough road signal circuit low Signal from SLABS ECU short circuit to earth	X
P1592 ABS rough road signal circuit high Signal from SLABS ECU short circuit to vehicle battery supply	X
P1663 Throttle angle/Torque signal circuit malfunction SLABS HDC link open circuit	X
P1664 Throttle angle/Torque signal circuit low SLABS HDC link short circuit to ground	X
P1665 Throttle angle/Torque signal circuit high SLABS HDC link short circuit to battery voltage	X
P1319 Misfire detected at low fuel level Misfire detected with low fuel level	X
P0600 Serial communication link malfunction CAN time out	X
P1776 EAT torque interface error	X