

# Range Rover P38A V8 OBD Fault Codes

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

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](mailto: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

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**Disco II**

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

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**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

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**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  $\pm 1$  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

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**Disco II**

P0262 - Short circuit to ground	X
<b>Injector 2</b>	
P0202 - Open circuit	X
P0264 - Short circuit to ground	X
P0265 - Short circuit to ground	X
<b>Injector 3</b>	
P0203 - Open circuit	X
P0267 - Short circuit to ground	X
P0268 - Short circuit to ground	X
<b>Injector 4</b>	
P0204 - Open circuit	X
P0270 - Short circuit to ground	X
P0271 - Short circuit to ground	X
<b>Injector 5</b>	
P0205 - Open circuit	X
P0273 - Short circuit to ground	X
P0274 - Short circuit to ground	X
<b>Injector 6</b>	
P0206 - Open circuit	X
P0276 - Short circuit to ground	X
P0277 - Short circuit to ground	X
<b>Injector 7</b>	
P0207 - Open circuit	X
P0279 - Short circuit to ground	X
P0280 - Short circuit to ground	X
<b>Injector 8</b>	
P0208 - Open circuit	X
P0282 - Short circuit to ground	X
P0283 - Short circuit to ground	X
<b>Idle Air Control Valve (IACV) - from 99MY</b>	
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
<b>Heated Oxygen Sensors (HO2S) - from 99MY</b>	
<b>P1129 - Front heated oxygen sensors transposed</b>	
<b>Upstream (Front) sensor LH bank - electrical (NAS only)</b>	
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

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**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

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**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 catalyts	X
P1414 SAI system fault (LH side) - air delivery not reaching catalyts	X
P1413 SAI system fault (LH side) - air delivery not reaching catalyts	X
P1415 SAI system fault (RH side) - air delivery not reaching catalyts	X
P1417 SAI system fault (RH side) - air delivery not reaching catalyts	X
P1416 SAI system fault (RH side) - air delivery not reaching catalyts	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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**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 Cylinder 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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### 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