

DIAGNOSTIC TROUBLE CODE LIST

Most EFI fault codes are caused by wiring issues. Rarely is an ECU or the sensor the cause of a DTC. Thoroughly test the wiring related to the DTC before replacing any components. The best way to diagnose a wiring issue is to get the vehicle up to operating temperature so there is some heat in the wiring. Connect the vehicle to Digital Wrench and go to Data Display. Click on the Graph icon associated with the sensor that is tripping the DTC. Wiggle the wiring to that sensor while watching the graph. The reading should be consistent while the wiring is being wiggled. Spikes up or down indicate damaged wiring.

SPN	FMI	COMPONENT	CONDITION	DTC
29	2	Accelerator Position 2	Data Erratic, Intermittent or Incorrect	P1225
	3		Voltage above normal	P1228
	4		Voltage below normal	P1227
51	2	Throttle Position Sensor 1	Data Erratic, Intermittent or Incorrect	P0121
	3		Voltage above normal	P0123
	4		Voltage below normal	P0122
84	0	Vehicle Speed Sensor	Valid but above normal	C1057
	2		Data Erratic, Intermittent or Incorrect	P0503 C1058
	10		Abnormal rate of change	C1068
	19		Received network data-in error	C1069
91	2	Accelerator Position 1	Data Erratic, Intermittent or Incorrect	P0225
	3		Voltage above normal	P0228
	4		Voltage below normal	P0227
96	2	Fuel Level Signal	Data Erratic, Intermittent or Incorrect	P0461
	3		Voltage above normal	P0463
	4		Voltage below normal	P0462
	16		Valid but above normal	P1462
	18		Valid but below normal	P1463
102	3	Manifold Absolute Pressure Sensor	Voltage above normal	P0108
	4		Voltage below normal	P0107
105	0	Intake Air Temperature Sensor	Valid but above normal	P1111
108	3	Barometric Pressure Sensor	Voltage above normal	P2229
	4		Voltage below normal	P2228
110	0	Engine Temperature Sensor	Valid but far above normal	P1217
	2		Data Erratic, Intermittent or Incorrect	P0116
	3		Voltage above normal	P0118
	4		Voltage below normal	P0117
	16		Valid but above normal	P0217
168	1	System Power	Valid but below normal	P1563
	3		Voltage above normal	P0563 C1063
	4		Voltage below normal	P0562 C1064
190	0	Engine Speed	Valid but above normal	C1059
	2		Data Erratic, Intermittent or Incorrect	C1061
	19		Receive network data-in error	C1066
	31		Condition exists	P121C

EFI / FUEL SYSTEM

SPN	FMI	COMPONENT	CONDITION	DTC
523	2	Gear Sensor Signal	Data Erratic, Intermittent or Incorrect	P0914
	4		Voltage below normal	P0916
628	12	ECU Memory	Bad intelligent device	C1073
	13		Out of calibration	C1601
636	2	Crankshaft Position Sensor	Data Erratic, Intermittent or Incorrect	P0335
651	3	Injector 1 (MAG)	Voltage above normal	P0262
	4		Voltage below normal	P1262
	5		Current below normal or open	P0261
652	3	Injector 2 (PTO)	Voltage above normal	P0265
	4		Voltage below normal	P1265
	5		Current below normal or open	P0264
731	1	Knock Sensor	Valid but below normal	P0326
1071	3	Fan Relay Driver	Voltage above normal	P1482
	4		Voltage below normal	P1483
	5		Current below normal or open	P1481
1127	0	Boost Pressure Sensor	Valid but above normal	P0234
	3		Voltage above normal	P0238
	4		Voltage below normal	P0237
	31		Condition exists	P1234
1268	3	Ignition Coil Driver (MAG)	Voltage above normal	P1353
1269	3	Ignition Coil Driver (PTO)	Voltage above normal	P1354
1347	3	Fuel Pump Driver Circuit	Voltage above normal	P0232
	4		Voltage below normal	P0231
	5		Current below normal or open circuit	P0230
2629	3	Engine Turbo Compressor Outlet Temperature	Voltage above normal	P1235
	4		Voltage below normal	P1236
3056	2	Oxygen Sensor	Data erratic, intermittent or incorrect	P0130
	3		Voltage above normal	P0132
	4		Voltage below normal	P0131
3597	3	ECU Output Ignition / Supply Voltage 1	Voltage above normal	P16A2
	4		Voltage below normal	P16A1
3598	3	ECU Output Injection / Supply Voltage 2	Voltage above normal	P16A9
	4		Voltage below normal	P16A8
3599	3	ECU Output Supply Voltage 3	Voltage above normal	P17AA
	4		Voltage below normal	P17AB
65613	2	ETC Accelerator Position Sensor Outputs 1 & 2 Correlataion	Data erratic, intermittent or incorrect	P1135
520198	2	Throttle Position Sensor 2	Data erratic, intermittent or incorrect	P0221
	3		Voltage above normal	P0223
	4		Voltage below normal	P0222
520204	15	Fuel Correction	Valid but above normal	P0172
	17		Valid but below normal	P0171
520207	3	AWD Control Circuit	Voltage above normal	P1835

SPN	FMI	COMPONENT	CONDITION	DTC
	4		Voltage below normal	P1834
	5		Current below normal or open circuit	P1836
520208	3	Chassis Relay	Voltage above normal	P1614
	4		Voltage below normal	P1613
	5		Current below normal or open circuit	P1611
520209	3	Oxygen Sensor Heater	Voltage above normal	P0032
	4		Voltage below normal	P0031
	5		Current below normal or open circuit	P0030
520221	6	Steering Over Current Shut Down	Current above normal or grounded circuit	C1050
520222	6	Steering Excessive Current Error	Current above normal or grounded circuit	C1051
520223	31	Steering Torque Partial Failure	Condition exists	C1052
520224	31	String Torque Full Failure	Condition exists	C1053
520225	0	EPAS Inverter Temperature	Valid but far above normal	C1055
	16		Valid but above normal	C1054
520226	2	EPAS Communications Receive Data Error	Data erratic, intermittent or incorrect	U0100
520228	12	Position Encoder Error	Bad intelligent device or component	C1126
	31		Condition exists	C106B
520229	12	Software Error	Bad intelligent device or component	C1070
	31		Condition exists	C106F
520231	31	EPAS Power Save Condition	Condition exists	C1071
520275	31	Accelerator Position / Brake Position Interaction	Condition exists	P150A
520276	2	Throttle Position Sensor	Data erratic, intermittent or incorrect	P150C
	12		Bad intelligent device or component	P150B
520277	2	Throttle Body Control - Power Stage	Data erratic, intermittent or incorrect	P151A
	3		Voltage above normal	P150D
	4		Voltage below normal	P150E
	8		Abnormal frequency or pulse width	P151B
	31		Condition exists	P153F
520278	31	Throttle Body Control - Return Spring Check Failed	Condition exists	P151C
520279	31	Throttle Body Control - Adaption Aborted	Condition exists	P151D
520280	31	Throttle Body Control - Limp Home Position Check Failed	Condition exists	P151E
520281	31	Throttle Body Control - Mechanical Stop Adaptation Failure	Condition exists	P152A
520282	31	Throttle Body Control - Repeated Adaptation Failed	Condition exists	P152B
520283	2	Throttle Body Control	Data erratic, intermittent or incorrect	P152F

EFI / FUEL SYSTEM

SPN	FMI	COMPONENT	CONDITION	DTC
	3		Voltage above normal	P152C
	4		Voltage below normal	P152D
520284	31	Throttle Body Control - Position Deviation Fault	Condition exists	P152E
520285	2	Brake Switch	Data erratic, intermittent or incorrect	P153E
520286	31	ECU Monitoring Error	Condition exists	P1540
520287	31	ECU Monitoring Error (Level 3)	Condition exists	P1541
520288	31	ECU Monitoring of Injection Cut off (Level 1)	Condition exists	P1542
520289	31	ECU Monitoring of Injection Cut off (Level 2)	Condition exists	P1543
520305	31	Throttle Body Control - Requested Throttle Angle Not Plausible	Condition exists	P1530
520306	31	ECU ADC Fault - No Load	Condition exists	P1531
520307	31	ECU ADC Fault - Voltage	Condition exists	P1532
520308	31	Accelerator Sensor Sync Fault	Condition exists	P1533
520309	31	ECU Fault - ICO	Condition exists	P1534
520311	31	ECU Fault - Hardware Disruption	Condition exists	P1537
520331	3	Knock Sensor Positive Line	Voltage above normal	P1327
	4		Voltage below normal	P1328
520332	3	Knock Sensor Negative Line	Voltage above normal	P132A
	4		Voltage below normal	P132B
520341	3	Wastegate Solenoid Driver	Voltage above normal	P0243
	4		Voltage below normal	P0246
	5		Current below normal or open circuit	P0245
520342	15	Idle Fuel Correction	Valid but above normal - Too Rich	P116C
	17		Valid but below normal - Too Lean	P116D
520344	15	Adaptive Fuel Correction	Valid but above normal - Too Rich	P0170
	17		Valid but below normal - Too Lean	P1170
520496	3	Intercooler Pump Driver Circuit	Voltage above normal	P107D
	4		Voltage below normal	P107C
	5		Current below normal or open circuit	P107E
524086	3	EPS SEPIC Voltage Error	Voltage above normal	C106D
	4		Voltage below normal	C106E