

CUMMINS ENGINE DIAGNOSTIC CODES

This group provides information on the engine fault codes that could potentially appear on the LCD display at the center of your electronic dash when using the Engine Diagnostics Menu feature.

The first column of the following chart indicates the Suspect Parameter Number (SPN). The second column shows Fault Mode Identifier (FMI) numbers.

Refer to the appropriate Cummins Troubleshooting Manual or your Cummins dealer for additional information on isolating and repairing potential or existing problems.

2 TROUBLESHOOTING CODES. (AS OF 2/15/06)

J1939 SPN	J1939 FMI	DIAGNOSTIC CODE DESCRIPTION	FAULT CODE
27	2	EGR POSITION SENSOR CIRCUIT DATA INCORRECT	1228
27	3	EGR VALVE POSITION CIRCUIT SHORTED HIGH	2271
27	4	EGR VALVE POSITION CIRCUIT SHORTED LOW	2272
27	13	EGR VALVE POSITION FAILED AUTOMATIC CALIBRATION PROCEDURE	2348
84	2	VEHICLE SPEED SENSOR CIRCUIT DATA INCORRECT	241
84	10	VEHICLE SPEED SENSOR CIRCUIT TAMPERING HAS BEEN DETECTED	242
91	3	ACCELERATOR PEDAL POSITION SENSOR CIRCUIT SHORTED HIGH	131
91	4	ACCELERATOR PEDAL POSITION SENSOR CIRCUIT SHORTED LOW	132
91	19	SAE 1939 MULTIPLEXING ACCELERATOR PEDAL SENSOR SYSTEM ERROR	287
94	2	FUEL PRESSURE SENSOR CIRCUIT DATA INCORRECT	268
94	16	FUEL PRESSURE HIGH WARNING	449
94	18	FUEL PRESSURE LOW WARNING	482
94	3	FUEL DELIVERY PRESSURE SENSOR CIRCUIT SHORTED HIGH	546
94	4	FUEL DELIVERY PRESSURE SENSOR CIRCUIT SHORTED LOW	547

ENGINE DIAGNOSTICS

J1939 SPN	J1939 FMI	DIAGNOSTIC CODE DESCRIPTION	FAULT CODE
95	16	FUEL FILTER RESTRICTION MODERATELY-HIGH WARNING	2372
97	15	WATER IN FUEL INDICATOR HIGH - MAINTENANCE	418
97	3	WATER IN FUEL SENSOR CIRCUIT SHORTED HIGH	428
97	4	WATER IN FUEL SENSOR CIRCUIT SHORTED LOW	429
100	3	ENGINE OIL PRESSURE SENSOR CIRCUIT SHORTED HIGH	135
100	4	ENGINE OIL PRESSURE SENSOR CIRCUIT SHORTED LOW	141
100	18	ENGINE OIL PRESSURE LOW WARNING	143
100	1	ENGINE OIL PRESSURE LOW CRITICAL	415
100	2	ENGINE OIL PRESSURE SENSOR CIRCUIT DATA INCORRECT	435
102	3	INTAKE MANIFOLD PRESSURE SENSOR CIRCUIT #1 (TURBO COMPRESSOR OUTLET PRESSURE) SHORTED HIGH	122
102	4	INTAKE MANIFOLD PRESSURE SENSOR CIRCUIT #1 (TURBO COMPRESSOR OUTLET PRESSURE) SHORTED LOW	123
102	2	INTAKE MANIFOLD PRESSURE SENSOR CIRCUIT DATA INCORRECT	2973
103	16	TURBOCHARGER #1 SPEED HIGH WARNING	595
103	18	TURBOCHARGER #1 SPEED LOW WARNING	687
103	10	TURBOCHARGER SPEED INVALID RATE OF CHANGE DETECTED	2345
105	3	INTAKE MANIFOLD TEMP SENSOR #1 CIRCUIT - SHORTED HIGH	153
105	4	INTAKE MANIFOLD TEMP SENSOR #1 CIRCUIT - SHORTED LOW	154
105	0	INTAKE MANIFOLD TEMP SENSOR #1 HIGH - CRITICAL	155
105	15	INTAKE MANIFOLD TEMP HIGH WARNING	2964
108	3	AMBIENT AIR PRESSURE SENSOR CIRCUIT SHORTED LOW	221
108	4	AMBIENT AIR PRESSURE SENSOR CIRCUIT SHORTED HIGH	222

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J1939 SPN	J1939 FMI	DIAGNOSTIC CODE DESCRIPTION	FAULT CODE
108	2	AMBIENT AIR PRESSURE SENSOR CIRCUIT DATA INCORRECT	295
110	3	ENGINE COOLANT TEMPERATURE SENSOR CIRCUIT - SHORTED HIGH	144
110	4	ENGINE COOLANT TEMPERATURE SENSOR CIRCUIT - SHORTED LOW	145
110	0	ENGINE COOLANT TEMPERATURE HIGH - CRITICAL	151
110	15	ENGINE COOLANT TEMPERATURE HIGH - WARNING	2963
110	16	ENGINE COOLANT TEMPERATURE MODERATELY SEVERE	1119
111	1	ENGINE COOLANT LEVEL DATA BELOW NORMAL RANGE	235
111	3	ENGINE COOLANT LEVEL SENSOR CIRCUIT SHORTED HIGH	195
111	4	ENGINE COOLANT LEVEL SENSOR CIRCUIT SHORTED LOW	196
111	18	ENGINE COOLANT LEVEL LOW - WARNING	197
112	1	WATER PUMP DIFFERENTIAL PRESSURE - MOST SEVERE	1234
112	2	WATER PUMP DIFFERENTIAL PRESSURE - INTERMITTENT OR INCORRECT DATA	1235
112	3	WATER PUMP DIFFERENTIAL - SHORTED HIGH	1231
112	4	WATER PUMP DIFFERENTIAL - SHORTED LOW	1232
112	16	WATER PUMP DIFFERENTIAL - IN-RANGE	1233
112	18	WATER PUMP DIFFERENTIAL PRESSURE - MODERATELY SEVERE	1236
157	18	INJECTOR METERING RAIL #1 PRESSURE LOW - WARNING LEVEL	559
157	16	INJECTOR METERING RAIL #1 PRESSURE HIGH - MODERATELY SEVERE LEVEL	2552
166	2	CYLINDER POWER IMBALANCE BETWEEN CYLINDERS	951
167	16	ELECTRICAL CHARGING SYSTEM VOLTAGE HIGH - WARNING LEVEL	596
167	18	ELECTRICAL CHARGING SYSTEM VOLTAGE LOW - WARNING LEVEL	597

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J1939 SPN	J1939 FMI	DIAGNOSTIC CODE DESCRIPTION	FAULT CODE
167	1	ELECTRICAL CHARGING SYSTEM VOLTAGE LOW - CRITICAL LEVEL	598
171	3	AMBIENT AIR TEMP SENSOR CIRCUIT - SHORTED HIGH	249
171	4	AMBIENT AIR TEMP SENSOR CIRCUIT - SHORTED LOW	256
174	3	FUEL TEMP SENSOR CIRCUIT - SHORTED HIGH	263
174	4	FUEL TEMP SENSOR CIRCUIT - SHORTED LOW	265
175	3	ENGINE OIL TEMP SENSOR CIRCUIT - SHORTED HIGH	212
175	4	ENGINE OIL TEMP SENSOR CIRCUIT - SHORTED LOW	213
175	0	ENGINE OIL TEMP HIGH - CRITICAL	214
190	0	ENGINE SPEED HIGH - CRITICAL	234
190	2	PRIMARY ENGINE SPEED SENSOR ERROR	689
190	2	ENGINE SPEED / POSITION SENSOR #1 - DATA INTERMITTENT OR INCORRECT	2321
251	2	REAL TIME CLOCK - POWER INTERRUPT	319
411	2	EGR DIFFERENTIAL PRESSURE - DATA ERRATIC	2359
411	3	EGR VALVE DELTA P SENSOR CIRCUIT - SHORTED HIGH	2273
411	4	EGR VALVE DELTA P SENSOR CIRCUIT - SHORTED LOW	2274
412	3	EXHAUST GAS RECIRCULATION TEMP CIRCUIT - SHORTED HIGH	2375
412	4	EXHAUST GAS RECIRCULATION TEMP CIRCUIT - SHORTED LOW	2376
412	15	EGR TEMPERATURE - ABOVE NORMAL LEAST SEVERE	2961
412	16	EGR TEMPERATURE - ABOVE NORMAL MODERATELY SEVERE	2962
558	2	ACCELERATOR PEDAL IDLE VALIDATION CIRCUIT DATA INCORRECT	431
558	13	ACCELERATOR PEDAL IDLE VALIDATION CIRCUIT - SHORTED LOW	432
558	4	ACCELERATOR PEDAL LOW IDLE SWITCH	551

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J1939 SPN	J1939 FMI	DIAGNOSTIC CODE DESCRIPTION	FAULT CODE
611	3	VGT AIR CONTROL SHUTOFF CIRCUIT - SHORTED HIGH	2355
611	4	VGT AIR CONTROL SHUTOFF CIRCUIT - SHORTED LOW	2356
612	2	EXHAUST GAS PRESSURE SENSOR CIRCUIT - DATA INTERMITTENT OR INCORRECT	2554
615	3	EGR VALVE DELTA PRESSURE SENSOR CIRCUIT - SHORTED HIGH	2273
615	4	EGR VALVE DELTA PRESSURE SENSOR CIRCUIT - SHORTED LOW	2273
627	2	POWER LOST WITHOUT IGNITION OFF	434
627	2	POWER LOST WITHOUT IGNITION OFF	1117
629	12	ECM-CRITICAL INTERNAL FAILURE	111
630	12	ECM WARNING INTERNAL HARDWARE FAILURE	343
632	4	FUEL SHUTOFF VALVE CIRCUIT SHORTED LOW	254
632	3	FUEL SHUTOFF VALVE CIRCUIT SHORTED HIGH	255
632	7	FUEL SHUTOFF VALVE CIRCUIT STUCK OPEN	259
633	31	FUEL CONTROL VALVE #1	2311
635	31	TIMING ACTUATOR #1 CIRCUIT ERROR	2312
639	9	SAE J1939 MULTIPLEXING PGN TIMEOUT ERROR	285
639	13	SAE J1939 MULTIPLEXING PGN CONFIGURATION ERROR	286
639	2	SAE J1939 DATALINK - CANNOT TRANSMIT	426
641	4	VARIABLE GEOMETRY TURBO ACTUATOR SHORTED LOW	2384
641	3	VARIABLE GEOMETRY TURBO ACTUATOR SHORTED HIGH	2385
647	4	FAN CLUTCH CIRCUIT - SHORTED LOW	245
647	3	FAN CLUTCH CIRCUIT - SHORTED HIGH	2377
651	5	INJECTOR SOLENOID VALVE CYLINDER #1 CIRCUIT - OPEN CIRCUIT	322
651	6	INJECTOR SOLENOID VALVE CYLINDER #1 CIRCUIT - GROUNDED CIRCUIT	311

ENGINE DIAGNOSTICS

J1939 SPN	J1939 FMI	DIAGNOSTIC CODE DESCRIPTION	FAULT CODE
652	5	INJECTOR SOLENOID VALVE CYLINDER #2 CIRCUIT - OPEN CIRCUIT	331
652	6	INJECTOR SOLENOID VALVE CYLINDER #2 CIRCUIT - GROUNDED CIRCUIT	315
653	5	INJECTOR SOLENOID VALVE CYLINDER #3 CIRCUIT - OPEN CIRCUIT	324
653	6	INJECTOR SOLENOID VALVE CYLINDER #3 CIRCUIT - GROUNDED CIRCUIT	313
654	5	INJECTOR SOLENOID VALVE CYLINDER #4 CIRCUIT - OPEN CIRCUIT	332
654	6	INJECTOR SOLENOID VALVE CYLINDER #4 CIRCUIT - GROUNDED CIRCUIT	321
655	5	INJECTOR SOLENOID VALVE CYLINDER #5 CIRCUIT - OPEN CIRCUIT	332
655	6	INJECTOR SOLENOID VALVE CYLINDER #5 CIRCUIT - OPEN CIRCUIT	312
656	5	INJECTOR SOLENOID VALVE CYLINDER #6 CIRCUIT - OPEN CIRCUIT	325
656	6	INJECTOR SOLENOID VALVE CYLINDER #6 CIRCUIT - GROUNDED CIRCUIT	314
677	3	STARTER RELAY CIRCUIT - SHORTED HIGH	584
677	4	STARTER RELAY CIRCUIT - SHORTED LOW	585
723	7	EPS#2 - MECHANICAL MISALIGNMENT BE- TWEEN CAMSHAFT AND CRANKCASE SEN- SORS	731
723	2	SECONDARY ENGINE SPEED SENSOR ERROR	778
723	31	ENGINE SPEED / POSITION SENSOR #1 - DATA ERRATIC INTERMITTENT OR INCORRECT	778
974	3	REMOTE THROTTLE PEDAL SENSOR CIRCUIT SHORTED HIGH	133
974	4	REMOTE THROTTLE PEDAL SENSOR CIRCUIT SHORTED LOW	134
974	19	SAE J1939 MULTIPLEXING REMOTE THROTTLE DATA ERROR	288
1043	4	EPS SENSOR #1 (CRANKSHAFT) SUPPLY VOLTAGE - SHORTED LOW	284
1043	3	ACCELERATOR PEDAL POSITION SENSOR SUPPLY VOLTAGE CIRCUIT - SHORTED HIGH	387

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J1939 SPN	J1939 FMI	DIAGNOSTIC CODE DESCRIPTION	FAULT CODE
1043	4	ACCELERATOR PEDAL POSITION SENSOR SUPPLY VOLTAGE CIRCUIT - SHORTED LOW	443
1072	4	ENGINE BRAKE ACTUATOR CIRCUIT #1 - SHORTED LOW	2362
1072	3	ENGINE BRAKE ACTUATOR CIRCUIT #1 - SHORTED HIGH	2366
1073	4	ENGINE BRAKE ACTUATOR CIRCUIT #2 - SHORTED LOW	2363
1073	3	ENGINE BRAKE ACTUATOR CIRCUIT #2 - SHORTED HIGH	2367
1079	3	SENSOR SUPPLY VOLTAGE #1 CIRCUIT - SHORTED HIGH	386
1079	4	SENSOR SUPPLY VOLTAGE #1 CIRCUIT - SHORTED LOW	352
1080	4	SENSOR SUPPLY VOLTAGE #2 CIRCUIT - SHORTED LOW	187
1080	3	SENSOR SUPPLY VOLTAGE #2 CIRCUIT - SHORTED HIGH	227
1112	4	ENGINE BRAKE ACTUATOR CIRCUIT #3 - SHORTED LOW	2365
1112	3	ENGINE BRAKE ACTUATOR CIRCUIT #3 - SHORTED HIGH	2368
1172	3	TURBOCHARGER #1 COMPRESSOR INLET TEMP CIRCUIT SHORTED HIGH	691
1172	4	TURBOCHARGER #1 COMPRESSOR INLET TEMP CIRCUIT SHORTED LOW	692
1209	2	EXHAUST GAS PRESSURE SENSOR CIRCUIT - DATA ERRATIC, INTERMITTENT OR INCORRECT	2554
1209	3	EXHAUST PRESSURE CIRCUIT - SHORTED HIGH	2373
1209	4	EXHAUST PRESSURE CIRCUIT - SHORTED LOW	2374
1244	31	FUELING ACTUATOR #2 CIRCUIT ERROR	2313
1245	31	FUELING ACTUATOR #2 CIRCUIT ERROR	2314
1265	4	CENTINEL OIL CONTROL VALVE CIRCUIT - SHORTED LOW	223

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J1939 SPN	J1939 FMI	DIAGNOSTIC CODE DESCRIPTION	FAULT CODE
1265	3	CENTINEL OIL CONTROL VALVE CIRCUIT - SHORTED HIGH	224
1267	3	IDLE SHUTDOWN VEHICLE ACCESSORIES RELAY DRIVER CIRCUIT - SHORTED HIGH	338
1267	4	IDLE SHUTDOWN VEHICLE ACCESSORIES RELAY DRIVER CIRCUIT - SHORTED LOW	339
1349	16	INJECTOR METERING RAIL #2 PRESSURE HIGH - DATA VALID BUT ABOVE NORMAL OPERATING RANGE - MODERATELY SEVERE LEVEL	2551
1349	19	INJECTOR METERING RAIL PRESSURE LOW - WARNING	486
1378	31	CHANGE LUBRICATING OIL & FILTER - MAINTENANCE	649
1380	17	ENGINE OIL LEVEL #2 (REMOTE) LOW - MAINTENANCE	219
1590	2	LOSS OF COMMUNICATION WITH ADAPTIVE CRUISE CONTROL	784
1664	31	ENGINE FAILED TO START (AUTOMATIC START)	359
2789	15	TURBOCHARGER TURBINE INLET TEMP - ABOVE NORMAL LEAST SEVERE	2346
2790	15	TURBOCHARGER COMPRESSOR OUTLET TEMP	2347
2791	3	EGR VALVE CONTROL CIRCUIT - SHORTED HIGH OR OPEN	2349
2791	4	EGR VALVE CONTROL CIRCUIT - LOW	2351
2791	5	EGR VALVE CONTROL CIRCUIT - SHORTED HIGH OR OPEN	2349
2791	3	EGR VALVE CONTROL CIRCUIT - SHORTED HIGH OR OPEN	2352
2791	6	EGR VALVE CONTROL CIRCUIT - EXCESSIVE CURRENT DETECTED	2353
2791	15	EGR VALVE ACTUATOR OVER TEMPERATURE (CALCULATED) - DATA ABOVE NORMAL RANGE LEAST SEVERE LEVEL	9121
		FUEL FILTER RESTRICTION MODERATELY HIGH - WARNING	2372