

GENERAL MOTORS CORPORATION

ECM DIAGNOSTIC CODE INDICATION(S)



12	Diagnostic mode / ECM functioning No distributor pulses	31	Turbo over-boost fault (<i>Turbo only</i>)
13	Oxygen sensor signal problem or loss	31	Park/Neutral switch fault (<i>3.3L V-6</i>)
14	Coolant sensor - high temperature fault	31	MAT sensor circuit fault (<i>Cadillac DFI</i>)
15	Coolant sensor - low temperature fault	31	Canister purge solenoid fault
16	System over voltage - over 17.1 volts	31	Camshaft sensor circuit fault
16	DIS fault	31	EGR circuit fault (<i>1988-1991 TBI</i>)
17	Crank signal circuit shorted (or bad ECM)	31	MAP sensor circuit shorted
18	Crank signal circuit open (or bad ECM)	32	BARO sensor circuit shorted (<i>Carbureted</i>)
18	Cam/crank sensor synchronization error (<i>DIS</i>)	32	EGR circuit fault (<i>EFI/TBI</i>)
19	Fuel pump circuit shorted	32	MAP sensor circuit open
19	Crankshaft position sensor fault (1988-1991)	33	MAP sensor voltage low - pressure low/vacuum high
20	Fuel pump voltage high, circuit open	33	MAF signal low - flow high (<i>EFI/TPI/SFI</i>)
21	TPS voltage high	34	MAP sensor voltage high - pressure high/vacuum low
22	TPS voltage low	34	MAF signal high - flow low (<i>EFI/TPI/SFI</i>)
23	M/C solenoid fault (<i>Carbureted</i>)	35	ISC fault (<i>Carbureted</i>)
23	MAT sensor Low temperature fault (<i>EFI/TPI/SFI</i>)	35	IAC fault (<i>EFI/TPI/SFI</i>)
23	EST bypass circuit fault (<i>Cadillac DFI</i>)	35	BARO sensor circuit shorted (<i>Cadillac DFI</i>)
24	VSS loss of signal	36	MAF sensor burn-off circuit failure
25	MAT sensor High temperature fault (<i>EFI/TPI/SFI</i>)	36	DIS fault
25	Modulated displacement failure (<i>1981 Cadillac V8-6-4</i>)	36	Transaxle shift control (<i>1991+</i>)
25	EST circuit fault (<i>Cadillac HT4100</i>)	36	Closed throttle shift control (<i>1991+</i>)
26	Quad driver circuit (<i>3.8L</i>)	36	BARO sensor circuit shorted (<i>Cadillac DFI</i>)
26	Throttle switch circuit shorted	37	MAT sensor voltage low or shorted (<i>Cadillac HT4100</i>)
27	Throttle switch circuit open	37	MAT sensor high temperature (<i>1984-86</i>)
27	Gear switch diagnosis	38	MAT sensor voltage high or open (<i>Cadillac HT4100</i>)
28	Gear switch diagnosis	38	MAT sensor low temperature (<i>1984-86</i>)
28	PSM check (<i>4L80-E Transmissions</i>)	38	Brake input circuit failed (brake light switch)
29	Gear switch diagnosis	39	TCC failure
30	ISC fault (<i>Cadillac TBI</i>)	40	Power steering pressure switch fault
30	RPM error (<i>Cadillac MFI</i>)	41	EST circuit failure - no distributor pulses

41	Camshaft position sensor failure	56	VATS alert (<i>Cadillac</i>)
41	Cylinder select error	58	PASS key fuel enable circuit
42	EST circuit grounded (HEI module failure)	58	VATS alert
42	Front oxygen sensor lean error (<i>Cadillac MFI</i>)	60	Transmission not in drive (<i>Cadillac</i>)
43	ESC control failure, spark retard too long	61	Oxygen sensor failure
43	TPS out of adjustment	61	Cruise Control vent valve solenoid fault (<i>3.8L</i>)
43	Knock sensor signal	61	Secondary part throttle valve (<i>Corvette Port throttle system</i>)
43	Front oxygen sensor rich error (<i>Cadillac MFI</i>)	62	Transaxle gear switch (<i>3.1L V6, Quad 4</i>)
44	Oxygen sensor lean error	62	Oil temperature sensor fault (<i>Corvette 5.7L P</i>)
45	Oxygen sensor rich error	62	Cruise Control vacuum circuit fault (<i>3.8L</i>)
46	Power steering pressure switch fault (<i>4 cylinder</i>)	63	MAP sensor voltage high, low vacuum/open circuit (<i>2.8L</i>)
46	VATS alert	63	EGR flow check (<i>3.8L</i>)
46	Right/left fuel balance error (<i>Cadillac DFI</i>)	63	Right side oxygen sensor open error (<i>Corvette 5.7L P</i>)
47	ECM failure	64	MAP sensor voltage low - high vacuum/short circuit (<i>2.8L</i>)
47	A/C clutch and Cruise Control circuit	64	EGR flow check (<i>3.8L</i>)
48	Misfire diagnosis	64	Right side oxygen sensor lean error (<i>Corvette 5.7L P</i>)
48	EGR fault (<i>Cadillac</i>)	65	Fuel injection circuit fault (<i>Quad 4</i>)
49	MAP sensor low error	65	EGR flow check (<i>3.8L</i>)
51	ECM, PROM, or MEM-CAL failure	65	Cruise Control servo position sensor fault (<i>3.8L</i>)
52	ECM or CALPAK failure	65	Right side oxygen sensor rich error (<i>Corvette 5.7L P</i>)
53	System over voltage - over 17.1 volts	66	A/C pressure switch low pressure (<i>1991 +</i>)
53	EGR sensor fault, improper EGR vacuum (<i>Carbureted</i>)	66	ECM fault
53	Distributor signal fault (<i>Cadillac HT4100</i>)	67	Cruise Control switch failure
53	VATS alert (<i>5.0L TBI</i>)	67	A/C pressure switch low pressure (<i>Chevrolet</i>)
54	Fuel pump voltage low (below 2 volts) (<i>EFI/TPI/SFI</i>)	68	A/C relay circuit fault (<i>Chevrolet</i>)
54	M/C solenoid failure (<i>Carbureted</i>)	68	Cruise Control system fault
55	ECM failure (poor connections or failed ECM)	69	A/C clutch circuit fault (<i>Chevrolet</i>)
55	Oxygen sensor failure	69	A/C pressure switch high pressure
55	Fuel lean monitor error (<i>Corvette 5.7L P</i>)	70	Intermittent TPS signal (<i>Cadillac</i>)
56	Vacuum sensor circuit (<i>Corvette Port throttle system</i>)	71	Intermittent MAP sensor signal (<i>Cadillac</i>)
56	Coolant level low	72	Gear selector switch fault (<i>Chevrolet</i>)
56	Quad driver B circuit (<i>3.8L</i>)	73	Intermittent coolant sensor signal (<i>Cadillac</i>)

74 Intermittent MAT sensor signal (*Cadillac*)

75 Intermittent VSS signal (*Cadillac*)

80 TPS idle learn mode (*Cadillac 4.6*)

80 Fuel system rich (*Cadillac*)

81 Camshaft position sensor reference fault (*Cadillac*)

82 Camshaft position reference signal high (*Cadillac*)

83 *Reserved

84 *Reserved

85 Idle throttle angle too high (*Cadillac*)

85 TBI service required (*Cadillac*)

88 ECM fault ('85 & up)

95 Engine stall detected (*Cadillac*)

99 Power management, Cruise Control fault (*Cadillac*)

107 PCM /BCM data link defect

108 PROM checksum error

109 PCM memory reset (*Cadillac*)

110 Generator 'L' terminal circuit fault (*Cadillac*)

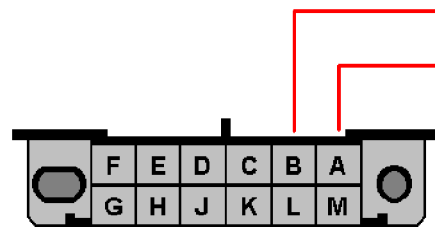
112 EEPROM failure (*Cadillac*)

131/132 Knock sensor failure (*Cadillac*)

A/C	Air Conditioning
BARO	Barometric sensor (Carbureted engine MAP)
BCM	Basic Control Module
CALPAK	Calibration Package (early PROM substitute)
CTS	Coolant Temperature Sensor
DFI	Digital Fuel Injection
DIS	Distributorless Ignition System
ECM	Electronic Engine Control Module
EEPROM	Electrically-Erasable Programmable Read-Only Memory module
EFI	Electronic Fuel Injection
EGR	Exhaust Gas Recirculation valve
ESC	Electronic Spark Control (HEI ignition)
EST	Electronic Spark Timing control
HEI	High Energy Ignition distributor module
IAC	Idle Air Control
ISC	Idle Speed Control

MAF	Mass Air Flow sensor
MAP	Manifold Absolute Pressure sensor
MAT	Manifold Air Temperature sensor
MEM-CAL	Memory Calibration module (early PROM substitute)
MFI	Multi-port Fuel Injection
M/C	Mixture Control servo
PCM	Programmable Control Module
PROM	Programmable Read-Only Memory module
PSM	Pressure Switch Manifold
SFI	Sequential multi-pot Fuel Injection
TBI	Throttle Body Injection
TCC	Torque Converter Clutch
TPI	Tuned-Port Induction
TPS	Throttle Position Sensor
VATS	Vehicle Anti-Theft System
VSS	Vehicle Speed Sensor

- ①Locate Diagnostic Connector;
 - ②Short pins 'B' & 'A';
 - ③Turn ignition key to 'ON' (*Do not Start!*);
 - ④Read 'CHECK ENGINE' light flashes for code indication;
- One flash, pause, two flashes = CODE 12
 Three flashes, pause, one flash = CODE 31



Diagnostic connector