

# GENERAL MOTORS CORPORATION

## ECM DIAGNOSTIC CODE INDICATION(S)



12	In diagnostic mode - ECM functioning	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
20	Fuel pump voltage high, circuit open	33	MAF signal low ( <i>EFI/TPI/SFI</i> )
21	TPS voltage high	34	MAP sensor voltage high
22	TPS voltage low	34	MAF signal high ( <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>4180-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

All information is compiled from General Motors®  publications and is correct at time of publication.  
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