

## Reading Computer Codes

On 1991 to 1997 models ( 1984 to 1986 V6 models as well as 1998 to 2002 follow ) you have a way of reading for fault codes which can be accessed without any scanners like other models by reading how the check engine light flashes. Start by turning the ignition key to the last stop before it starts, on and off three times within 5 seconds ending in the on position on the third time, ( i.e. on, off, on, off then on and leave ), ( OBDII 96-97, 4 times ) . The check engine light will start to flash quickly with a small pause in between then a medium pause to indicate the next number in the to digit number and then a long pause before the next set of flashing for the next code. If all is well you will get a code 55 which would read like this: 5 fast flashes, medium pause then a further 5 flashes. This is how all codes end with is this 55 code if you have air conditioning or with a code 33 without and any other codes would have been before it separated by a long pause. The codes will remain after this test so you can cycle through it as many times as it takes to read them. After a problem has gone the code will be removed after 50 on off key cycles or if the battery left disconnected over night which will cause a code 12 though.

Code	Description	Most likely reason
11	No crank signal to computer.	Fault in wiring between crankshaft position sensor (CPS) and ECM ( PCM or computer ) or faulty CPS.
12	Battery disconnected.	Battery or power to the ECM disconnected in the last 50 key cycles.
13	MAP Sensor.	No change in Manifold Absolute Pressure (MAP) between engine off and on. Check circuit and MAP sensor.
14	MAP Sensor.	MAP sensor voltage too high or low. Check circuit and sensor.
15	Speed sensor or circuit.	No signal detected from speed sensor. Check circuit and sensor.
17	Engine running too cold.	Wrong or faulty thermostat. Check also sensor and circuit for fault.
21	Oxygen sensor or circuit.	O2 sensor or wiring faulty.
22	Coolant sensor or circuit.	Check temp sensor and wiring.
23	Intake air temp or circuit.	Check air temp sensor and wiring.
24	Throttle Position Sensor (TPS)	Check TPS sensor and wiring.
25	Idle Air Control circuit (IAC)	Check IAC sensor and wiring.
26	Injector circuit resistance.	Peak injector current has not been reached or injector circuits have resistance
27	Fuel injector control circuit.	Will need specialist diagnostics.
31	Evaporative control circuit.	Fault in fuel evaporative control circuit or hoses.
33	Air conditioning clutch relay.	Wiring to A/C clutch fault.

34	Cruise control circuit.	Fault in circuit.
35	Cooling fan relay.	Check relay and circuit.
36	Air switch solenoid circuit.	Air switch solenoid circuit (non-turbo) or the waste gate solenoid on turbocharged models
37	Torque converter clutch.	Needs specialist or dealer diagnostics.
41	Alternator field switch.	Switch not operating correctly and check charging system.
42	Automatic shutdown relay.	Check relay and circuit. Needs specialist or dealer diagnostics.
43	Misfire.	Misfire in one or more cylinders.
44	Battery temperature sensor.	Needs specialist or dealer diagnostics.
46	Battery over voltage.	Check charging system.
47	Battery under voltage.	Check charging system.
51	O2 detects lean mixture.	Check sensor and circuit and for vacuum leaks.
52	O2 detects rich mixture.	Check fuel injection system and sensor.
53	Powertrain Control Module.	PCM (ECM) fault. Needs specialist or dealer diagnostics.
54	Distributor sync pickup.	Change sync sensor in distributor.
55	End of code.	Trouble codes finished or none recorded.
61	BARO solenoid	BARO solenoid failure
62	Emissions reminder.	Emissions maintenance reminder. Needs specialist or dealer diagnostics.
63	Controller failure.	EEPROM write denied. Needs specialist or dealer diagnostics.
64	Flexible fuel sensor.	Flexible fuel (methanol) sensor indicates concentration sensor input more/less than acceptable voltage
65	Manifold tune valve.	Manifold tune valve solenoid circuit open or shorted
66	TCM to PCM failure.	No message from the Transmission Control Module (TCM) to the Powertrain Control Module (PCM)
72	Catalytic converter circuit.	Needs specialist or dealer diagnostics.
76	Fuel pump bypass relay circuit.	Needs specialist or dealer diagnostics.
77	Cruise control system.	Check power to cruise control solenoids.