

Telephone:
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VAT Registration No.:

General information

- Trouble codes are displayed by using an LED connected to the data link connector (DLC).
- The ECM fault memory can also be checked and erased using diagnostic equipment connected to the data link connector (DLC).

Accessing

- Engine at normal operating temperature.
- Ensure ignition switched OFF.
- Bridge data link connector (DLC) terminals 4 and 11 [Fig. 1](#) .
- Connect LED test lamp negative connection to DLC terminal 4 [Fig. 1](#) .
- Connect LED test lamp positive connection to DLC terminal 3 [Fig. 1](#) .
- Switch ignition ON.
- Check that LED illuminates.
- Trouble codes are displayed after 10-25 seconds [Fig. 2](#) [A].
- Note trouble codes. Compare with trouble code table.
- Trouble codes are displayed by illuminated LED switching OFF for approximately 1 second [Fig. 2](#) [B].
- Each trouble code consists of two groups. LED illuminates for approximately 2 seconds between each group [Fig. 2](#) [C].

NOTE: Trouble codes ending in '0' are displayed with only 1 group.

- LED illuminates for approximately 5 seconds between each trouble code [Fig. 2](#) [D].
- Trouble code(s) are displayed twice.

Erasing

- Ensure ignition switched OFF.
- Disconnect engine control module (ECM) harness multi-plug.
- The engine control module (ECM) fault memory can also be erased using diagnostic equipment connected to the data link connector (DLC).

Trouble code identification

Flash type	Fault location	Probable cause
10	Command code	-
11	System pass	-
12	Volume air flow (VAF) sensor 1	Wiring, VAF sensor, air leak, air restriction, ECM
13	Engine coolant temperature (ECT) sensor	Wiring, ECT sensor, ECM
14	Intake air temperature (IAT) sensor	Wiring, IAT sensor, ECM
15	Throttle position (TP) sensor	Wiring, TP sensor, ECM
17	Manifold absolute pressure (MAP) sensor	Wiring, MAP sensor, ECM
18	Battery voltage - low	Wiring, battery

19	Keep Alive Memory (KAM) failure	ECM
20	Separation code	-
21	Ignition signal - erratic	Wiring, CKP sensor, alternator
22	Volume air flow (VAF) sensor 1 - voltage high	Wiring, VAF sensor, ECM
23	Engine coolant temperature (ECT) sensor - voltage high	Wiring, ECT sensor, ECM
24	Intake air temperature (IAT) sensor	Wiring, IAT sensor, ECM
25	Throttle position (TP) sensor - voltage high	Wiring, TP sensor, ECM
27	Manifold absolute pressure (MAP) sensor - voltage high	Wiring, MAP sensor, ECM
28	Heated oxygen sensor (HO2S) - mixture rich	Wiring, fuel supply, injector control, HO2S, ECM
31	Memory failure	ECM
32	Volume air flow (VAF) sensor 1 - voltage low	Wiring, VAF sensor, ECM
33	Engine coolant temperature (ECT) sensor - voltage low	Wiring, ECT sensor, ECM
34	Intake air temperature (IAT) sensor	Wiring, IAT sensor, ECM
35	Throttle position (TP) sensor - voltage low	Wiring, TP sensor, ECM
36	Volume air flow (VAF) sensor 2 - voltage low	Wiring, VAF sensor, ECM
37	Manifold absolute pressure (MAP) sensor - voltage low	Wiring, MAP sensor, ECM
38	Heated oxygen sensor (HO2S) - mixture weak	Wiring, fuel supply, injector control, HO2S, ECM
41	Volume air flow (VAF) sensor 1 - signal	Wiring, VAF sensor, ECM
42	Manifold absolute pressure (MAP) sensor - signal	Wiring, MAP sensor, ECM
43	Throttle position (TP) sensor - signal	Wiring, TP sensor, ECM
44	Blip test (throttle open) not performed	-
45	Vehicle speed sensor (VSS)	Wiring, VSS, ECM
46	Idle air control (IAC) valve - maximum engine speed	Wiring, IAC valve, ECM
47	Idle air control (IAC) valve - minimum engine speed	Wiring, IAC valve, ECM
48	Closed throttle position (CTP) switch	Wiring, CTP switch, ECM
49	Exhaust gas recirculation (EGR) valve	Wiring, restricted/leaking EGR pipes, EGR valve, ECM
50	Identification code for engine control module (ECM)	-
51	AC 'ON' during test	-
52	AT in 'D' during test	-
53	Octane plug 1 - short circuit	-
54	Octane plug 2 - short circuit	-
55	Idle speed adjust - short circuit	-
56	Knock sensor (KS)	Wiring, fuel quality, ignition timing, KS, ECM
57	Throttle opened too early during test	-
58	Phasing of ignition pick-up/spark output signals	Wiring, CKP sensor, ignition control module (ICM), ECM
59	Mixture adjustment resistor	Wiring, air leaks, vacuum leaks, MAP sensor, mixture adjustment resistor, injectors, spark plugs
60	Start of service set mode	-
61	Power loss - cylinder 1	Compression, spark plugs
62	Power loss - cylinder 2	Compression, spark plugs
63	Power loss - cylinder 3	Compression, spark plugs
64	Power loss - cylinder 4	Compression, spark plugs
65	Brake pedal position (BPP) switch - ON/OFF (DOHC)	Wiring, BPP switch, ECM
67	Fuel temperature switch	Wiring, fuel temperature switch
68	Turbocharger (TC) wastegate regulating valve	Wiring, valve, turbocharger, ECM

69	Turbocharger (TC) wastegate regulating valve	Wiring, valve, turbocharger, ECM
70	End of service set mode	-
71	Secondary air injection (AIR) solenoid	Wiring, AIR solenoid, blocked/leaking pipes, ECM
72	Exhaust gas recirculation (EGR) solenoid - EFi	Wiring, blocked/leaking pipes, EGR solenoid, ECM
72	Turbocharger (TC) wastegate regulating valve	Wiring, TC wastegate regulating valve, blocked/leaking pipes, ECM
73	Evaporative emission (EVAP) canister purge valve	Wiring, EVAP canister purge valve, ECM
74	Fuel pump	Wiring, fuel pump relay, fuel pump, ECM
75	Torque converter clutch (TCC) lock-up solenoid	Wiring, lock-up solenoid, transmission fault, ECM
76	Brake pedal position (BPP) switch - AT	Wiring, BPP switch, brake pedal, ECM
77	Kickdown actuated	-
78	Power steering pressure (PSP) switch - not activated	Wiring, PSP switch, power steering pump, power steering system pressure, ECM
81	Exhaust gas recirculation (EGR) solenoid	Wiring, blocked/leaking pipes, EGR solenoid, ECM
82	Exhaust gas recirculation (EGR) backpressure transducer - voltage below minimum	Wiring, blocked/leaking pipes, EGR backpressure transducer, ECM
83	Exhaust gas recirculation (EGR) backpressure transducer - voltage high	Wiring, blocked/leaking pipes, EGR backpressure transducer, ECM
84	Exhaust gas recirculation (EGR) backpressure transducer - voltage low	Wiring, blocked/leaking pipes, EGR backpressure transducer, ECM
91	Heated oxygen sensors (HO2S) - multi-plugs interchanged	Wiring, multi-plugs



