

Read memory mode

- Ensure ignition switched OFF.
- Connect engine diagnostic link connectors (black) [Fig. 1](#) [1].
- Switch ignition ON. DO NOT start engine.
- Check that MIL illuminates.
- Count MIL flashes. Note trouble codes. Compare with trouble code table.
- Trouble codes are indicated as follows:
- Long flashes indicate the 'tens' of the trouble code [Fig. 2](#) [A].
- Short flashes indicate the 'units' of the trouble code [Fig. 2](#) [B].
- A short pause separates each flash [Fig. 2](#) [C].
- A long pause separates each trouble code.
- For example: Trouble code displayed: 24. Idle air control (IAC) valve [Fig. 2](#) .
- Switch ignition OFF.
- Disconnect engine diagnostic link connectors (black) [Fig. 1](#) [1].

Dynamic check mode

- Engine at normal operating temperature.
- Ensure ignition switched OFF.
- Select neutral (MT).
- Select 'P' (AT).
- Connect engine diagnostic link connectors (green) [Fig. 1](#) [2].
- Switch ignition ON. DO NOT start engine.
- Check MIL illuminates.
- Select 'N' (AT).
- Select 'P' (AT).
- Start engine.
- Check MIL flashes.
- If MIL does not flash: Drive vehicle for 1 minute minimum at 7 mph minimum.
- Increase engine speed to 2000 rpm minimum for 1 minute minimum.
- Count MIL flashes. Note trouble codes. Compare with trouble code table.
- Trouble codes are indicated as follows:
- Long flashes indicate the 'tens' of the trouble code [Fig. 2](#) [A].
- Short flashes indicate the 'units' of the trouble code [Fig. 2](#) [B].
- A short pause separates each flash [Fig. 2](#) [C].
- A long pause separates each trouble code.
- Switch ignition OFF.
- Disconnect engine diagnostic link connectors (green) [Fig. 1](#) [2].
- The ECM fault memory can also be checked using suitable diagnostic equipment connected to the data link connector (DLC) (yellow) [Fig. 3](#) .

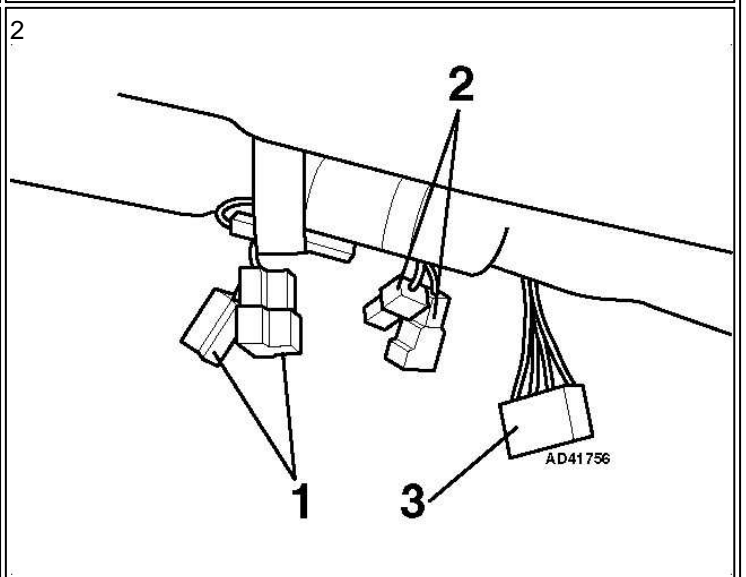
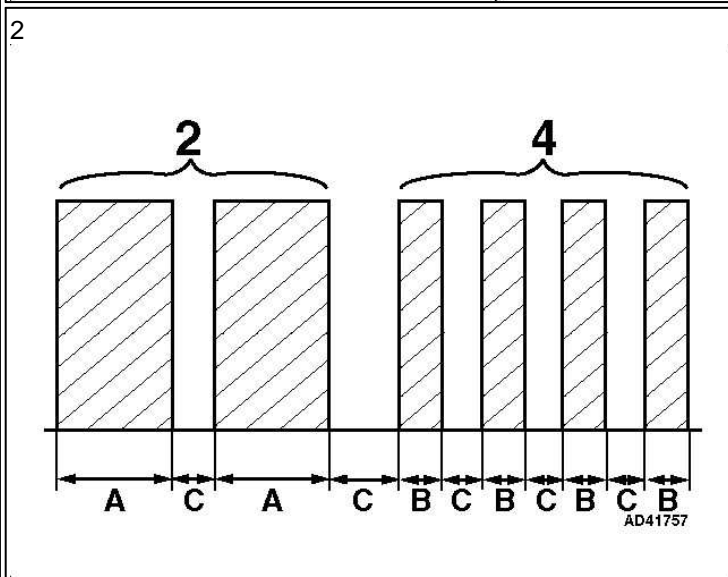
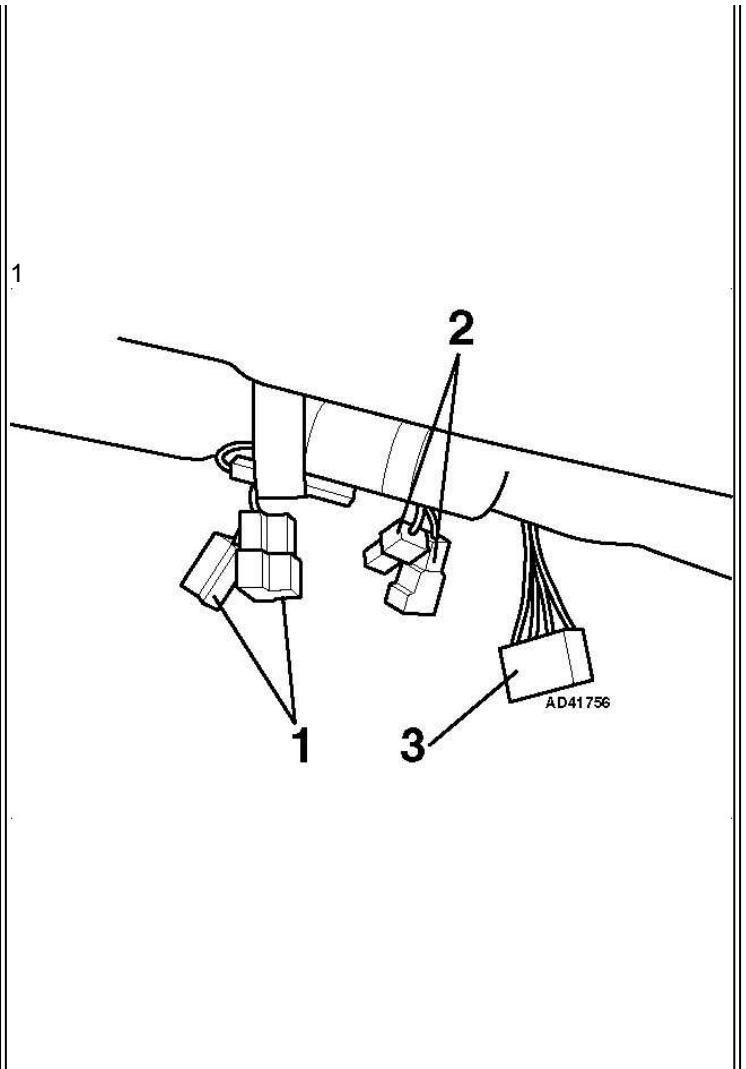
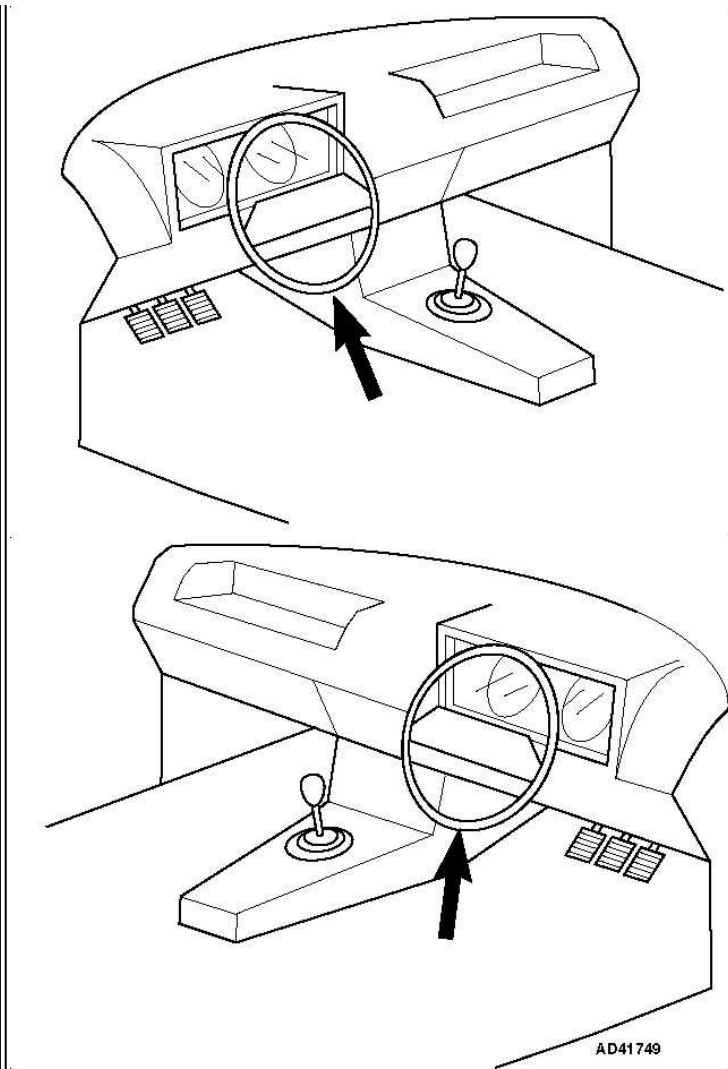
Erasing trouble codes

- Engine at normal operating temperature.
- Ensure ignition switched OFF.
- Select neutral (MT).
- Select 'P' (AT).
- Connect engine diagnostic link connectors (green and black) [Fig. 1](#) [1] & [2].
- Switch ignition ON. DO NOT start engine.
- Check that MIL illuminates.
- Select 'N' (AT).

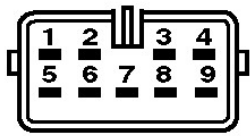
- Select 'P' (AT).
- Start engine.
- Drive vehicle for 1 minute minimum at 7 mph minimum.
- Increase engine speed to 2000 rpm for 1 minute minimum.
- Check that MIL flashes: Code 11111. No fault found.
- Switch ignition OFF.
- Disconnect engine diagnostic link connectors (black and green) **Fig. 1** [1] & [2].

Trouble code identification

Trouble code	Fault location	Probable cause
11111	No fault found	-
11	Crankshaft position (CKP) sensor - circuit malfunction	Wiring, CKP sensor, ECM
12	Starter switch - signal malfunction	Wiring, starter switch
13	Camshaft position (CMP) sensor - signal malfunction	Wiring, CMP sensor, ECM
21	Engine coolant temperature (ECT) sensor - signal malfunction	Wiring, ECT sensor, ECM
22	Knock sensor (KS) 1 - circuit malfunction	Wiring, KS, ECM
23	Mass air flow (MAF) sensor - circuit malfunction	Wiring, MAF sensor, ECM
24	Idle air control (IAC) valve - circuit malfunction	Wiring, IAC valve, ECM
31	Throttle position (TP) sensor - signal malfunction	Wiring, TP sensor, ECM
32	Heated oxygen sensor (HO2S) - circuit malfunction	Wiring, HO2S, ECM
33	Vehicle speed sensor (VSS) - signal malfunction	Wiring, VSS, ECM
35	Evaporative emission (EVAP) canister purge valve - circuit malfunction	Wiring, EVAP canister purge valve, ECM
49	CO adjustment resistor - if fitted - circuit malfunction	Wiring, CO adjustment resistor, ECM
51	Neutral position (NP) switch (MT)/inhibitor switch (AT) - circuit malfunction	Wiring, NP switch, inhibitor switch, ECM

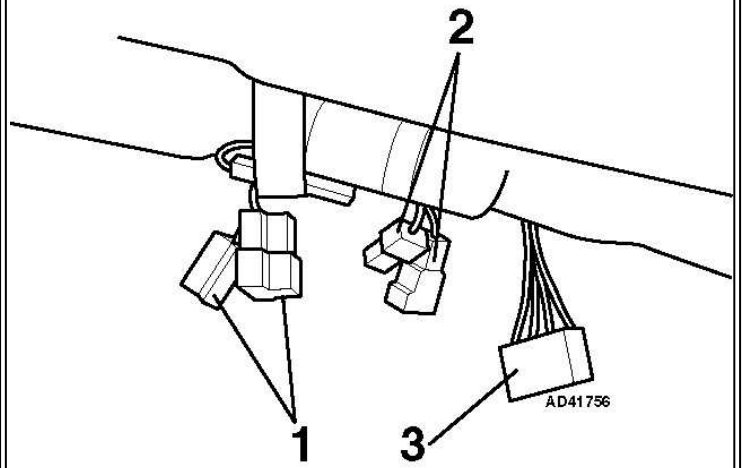


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