

Ignition system

High-tension spark

Checking - [Fig. 12](#)

NOTE: Disconnect injector multi-plugs before cranking tests, to avoid damage to catalytic converter(s).

- Ensure ignition switched OFF.
- Remove upper engine cover.
- Disconnect ignition coil from one spark plug.
- Connect test spark plug to ignition coil.
- Using insulated pliers, hold test spark plug 6 mm from suitable earth.
- Briefly crank engine.
- Check for strong blue sparks.
- Repeat test for each ignition coil.
- If no spark is visible: Carry out high-tension circuit component checks. Refer to General Test Procedures.

Ignition timing & firing order

Checking and adjustment - [Fig. 13](#)

Technical Data	
Normal ignition timing	Not specified
Firing order	1-3-4-2

- Ignition timing electronically controlled.
- No adjustment possible.

Ignition coils

Checking supply voltage - [Fig. 14](#) & [Fig. 15](#)

Technical Data	
Terminals	Voltage
2 & earth	Battery voltage

- Ensure ignition switched OFF.
- Disconnect relay module multi-plug.
- Bridge relay module harness multi-plug terminals 8 and 13 with a switched lead [Fig. 14](#).
- Disconnect ignition coil multi-plug.

- Operate switch.
- Check voltage between harness multi-plug terminal and earth [Fig. 15](#).
- Repeat test for each ignition coil.
- If voltage not as specified: Check wiring.

Checking primary resistance - [Fig. 16](#)

Technical Data	
Resistance	0,45-0,65 Ω

- Ensure ignition switched OFF.
- Disconnect ignition coil multi-plug.
- Check resistance between ignition coil terminals.

Checking secondary resistance

NOTE: Secondary resistance cannot be checked.

Ignition amplifier

NOTE: Incorporated in engine control module (ECM).

Checking signal - [Fig. 17](#)

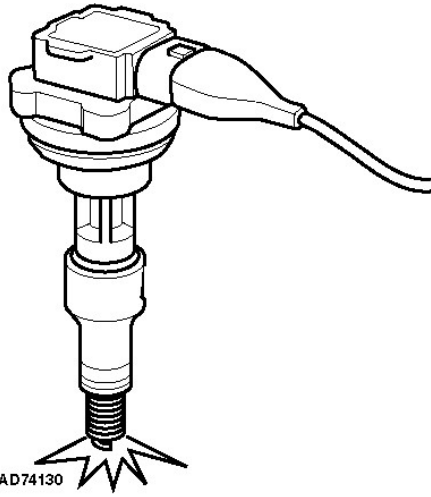
Technical Data	
Terminals	LED
1 & 2	Flashing

NOTE: Relay module must be fitted and working correctly in order to check signal.

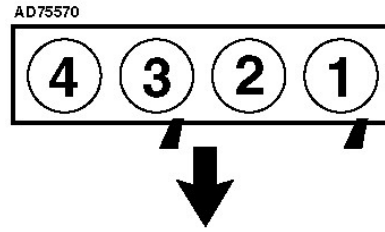
NOTE: Disconnect injector multi-plugs before cranking tests, to prevent engine from starting.

- Ensure ignition switched OFF.
- Do not disconnect multi-plug. Access ignition coil multi-plug terminals.
- Connect LED test lamp between multi-plug terminals.
- Briefly crank engine.
- Check that LED flashes.
- Repeat test for each ignition coil.
- If LED does not flash: Check wiring and crankshaft position (CKP) sensor.

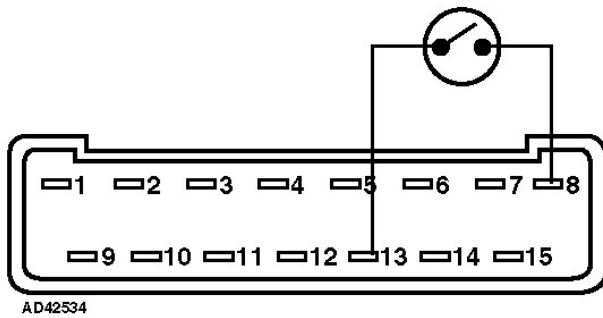
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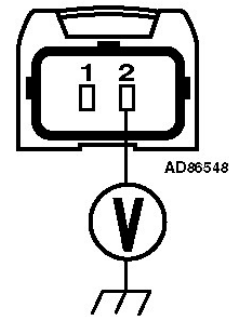
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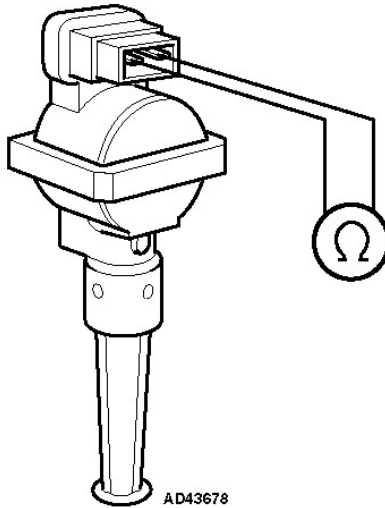
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