

Fig. 29. Throttle position sensor terminal identification on M50 engine.

Table g. Throttle Position Sensor Tests (DME 3.1/3.3.1)

Test conditions	Terminals	Test value
Harness connector disconnected, ignition on	3 and ground in harness connector	5 VDC (approx.)
Harness connector disconnected, ignition off	1 and 3 at sensor terminals	4 k ohms (approx.)
Throttle plate rotated from idle to full throttle position	1 and 2 at sensor terminals	Variable from 1 – 4 k ohms (approx.) without interruption

NOTE —

On cars with traction control, do not confuse the throttle position sensor on the main throttle body with the throttle position switch on the secondary throttle body, where applicable.

Idle speed control valve, testing

Idle speed is maintained by the ECM through the idle speed control valve. The idle control function compensates for engine load and engine operating conditions. Idle speed is adaptive through the ECM and no idle speed adjustments can be made.

Before testing the valve, confirm that the throttle position sensor is working correctly.

NOTE —

The tests given below are electrical checks only. They do not check the mechanical operation of the valve. If the valve is suspected of causing poor idle, substituting a known good valve is the best way to check for a mechanical fault.

1. With engine running, check that idle speed control valve is buzzing.
2. Turn on A/C or shift car into drive. Idle should remain steady or increase slightly.
3. If valve is not buzzing, or if idle decreases in step 2, stop engine and disconnect harness connector from valve. Check resistance of valve across its terminals. See Fig. 30. Test values are listed below.

NOTE —

If you suspect an intermittent fault, lightly tap the valve while testing resistance.

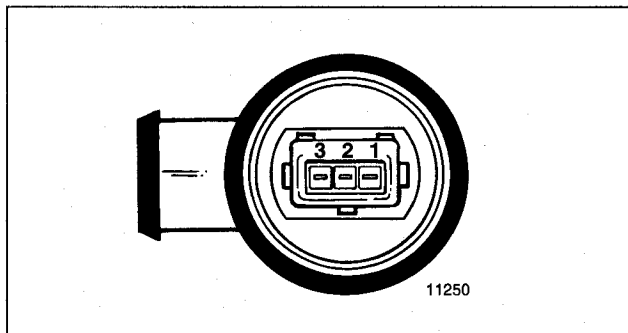


Fig. 30. Idle speed control valve terminal identification.

Idle Speed Control Valve Coil Resistance Values

- M50/S50US engine
 - Terminals 1 and 2 20 ± 5 ohms
 - Terminals 2 and 3 20 ± 5 ohms
 - Terminals 1 and 3 40 ± 5 ohms

4. With valve harness connector disconnected, check for battery voltage at red/white wire in connector with ignition turned on.
 - If there is no voltage, check wiring between connector and main relay terminal 87. See **Electrical Wiring Diagrams**.

NOTE —

The idle speed control valve receives positive (+) battery voltage from the main relay.

5. If voltage is present as described above, check wiring between ECM and valve. If no wiring faults are found, check ECM signal to valve.