

Idle Control Solenoid Valve

Testing

An idle control solenoid valve, which is activated by commands from the control unit, is installed in the control box.

When the solenoid valve opens, idle speed increases approximately 150 rpm. Idling speed increases under the following conditions:

- For 30 seconds after starting the engine.
- Altitude higher than 800 m.
- Coolant temperature lower than 70°C (158°F).
- For 0.5 seconds when quick deceleration is detected at 1,000 min⁻¹ (rpm).

1. Start engine and warm up to normal operating temperature; the cooling fan will come on.
2. Raise engine speed to 3,500 min⁻¹ (rpm) and release the throttle suddenly.
3. Listen for a clicking noise from the idle control solenoid valve at 1,000 rpm.

- If a clicking noise is heard, the solenoid valve is OK.
- If no noise is heard, replace the solenoid valve and re-test.

Idle Speed and Mixture



Adjustment

NOTE:

- Perform the measurement in a place with good ventilation and with no direct exposure to the wind and rain.
- Perform the measurement while the engine is idling (under no load).
- Use a precise tachometer to check engine rpm.
- Use the NDIR CO meter in accordance with the manufacturers' recommended procedures.
- The following inspections and adjustments should be completed before the measurement.

Air cleaner element

Ignition timing and control system

Spark plugs

Idling speed

Valve clearance

PCV valve

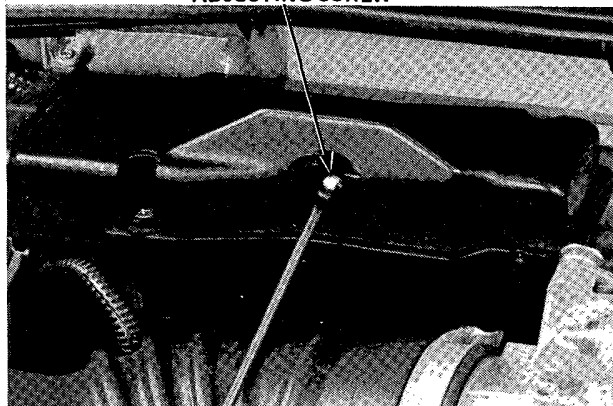
1. Start the engine, and, after the radiator cooling fan works two times, further warm up the engine at 3,000 rpm for two minutes or more.
2. Insert exhaust gas sampling probe into the tail pipe at least 40 cm (16 in.)
3. Check specification for idle speed and CO with the headlights off (On Swedish model: on) and cooling fan off.

The idle speed should be: 850 ± 50 min⁻¹ (rpm)

	Specified CO%
Swedish model	Below 1.5%
Switzerland model	0.5–2%

4. If unable to obtain this reading, remove the rubber cap on the control box and remove the hole plug on the IMA sensor. Adjust by turning adjusting screw of the IMA sensor.

ADJUSTING SCREW



If unable to obtain a CO reading of specified % by this procedure, check the engine tune-up condition. Be sure to put the rubber cap and hole plug on when the adjustment is completed.