SAAB THERMOSTATIC AIR CLEANER

900, 900 Turbo

DESCRIPTION

The thermostatic air cleaner is designed to regulate the temperature of incoming air to ensure a more accurate air/fuel ratio. Non-turbo models use a thermostatic sensor in the throttle housing which activates an air door by cable. Turbo models have sensor mounted on the air intake, activating the door directly.

OPERATION

NON-TURBO MODELS

When incoming air is below 73°F (23°C), the thermostat opens only the air door from the exhaust manifold air pipe. When incoming air temperature exceeds 99°F (37°C), the thermostat opens only the fresh air intake door. When temperatures are between these extremes, the air is mixed from both sources.

TURBO MODELS

Incoming air below 23°F (-5°C) causes the air door to be open only from the exhaust manifold air pipe. The thermostat mixes the fresh and heated air up to 41°F (5°C), when the fresh air duct is fully open.

TESTING

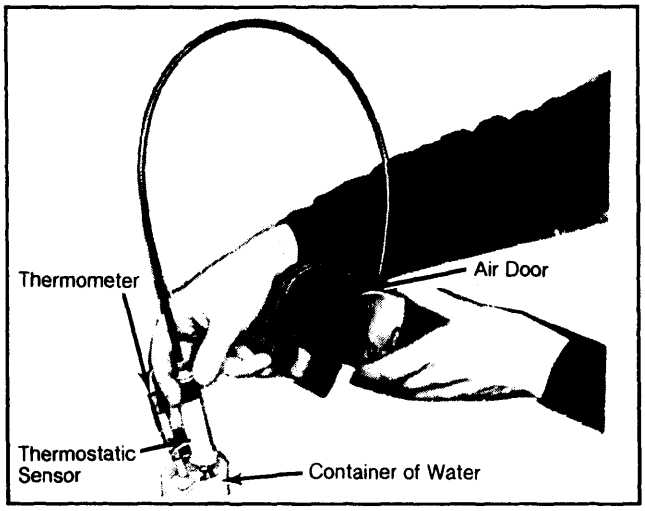
NOTE: Thermostat on Turbo cannot be tested in water since operation temperature is below freezing.

1) A rough test can be made by removing air intake, and watching valve operation as a cold engine is started and warmed up.

2) To accurately test sensor, remove entire unit from vehicle and immerse sensor in water. Check to ensure valve is open to fresh air only when water is above 99°F (37°C), and open to heated air when water is below 73°F (23°C).

NOTE: When checking sensor, cable should be in approximately the same position as when it is mounted on engine.

Fig. 1: Thermostatic Air Cleaner Sensor Check



Not applicable to Turbo models.

SAAB DASHPOT

900, 900 Turbo

DESCRIPTION & OPERATION

The dashpot is located on the throttle housing and acts to slowly return the throttle valve when it shuts. It is adjustable, but cannot be serviced.

TESTING

1) Warm engine to normal operating temperature. Connect tachometer and adjust idling speed to 875 RPM.

2) Raise engine speed to 3000 RPM and measure time between release of throttle and return to 875 RPM. Deceleration time should be 3-6 seconds.

ADJUSTMENT

1) Warm engine to normal operating temperature and check ignition timing and idle speed. On Turbo models, disconnect EGR. On non-Turbo models, disconnect and plug distributor vacuum advance.

2) Rotate throttle lever and check that dashpot rod strikes stop at 2100-2300 RPM on Turbo models or 2400-2600 RPM on non-Turbo models.

3) Raise engine speed to 3000 RPM and measure return time to idle. If less than 3 seconds, loosen lock nut and rotate dashpot closer to throttle stop.

4) If more than 6 seconds, loosen lock nut and rotate dashpot away from throttle stop. Tighten lock nut and repeat test.

Fig. 1: Saab Dashpot Location