

SAAB EXHAUST GAS RECIRCULATION

900, 900 Turbo

DESCRIPTION

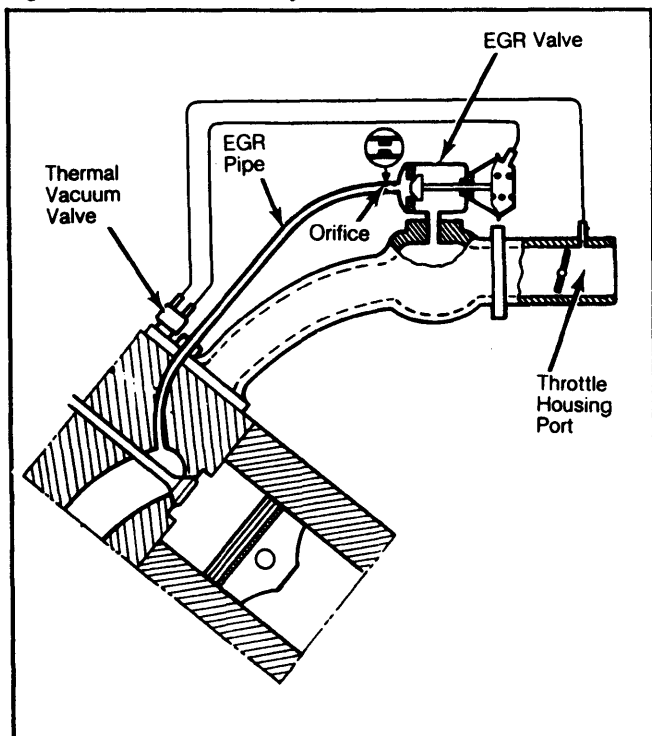
The Saab exhaust gas recirculation system is designed to recycle a small portion of exhaust gas into intake system. This reduces combustion chamber temperatures and lowers NOx emissions. Turbo models use a single stage EGR valve, thermal vacuum valve, orifice and throttle port vacuum source. Non-Turbo models use a EGR valve, thermal switch, and 2 throttle ports as a vacuum source.

OPERATION

TURBO MODELS

The EGR valve is controlled by engine vacuum. A throttle edge port causes the valve to open at about 1900 RPM. The valve is fully opened under light loads, but closes when intake manifold vacuum drops and boost begins. The thermal vacuum valve closes and prevents EGR operation when coolant is below 113°F (45°C).

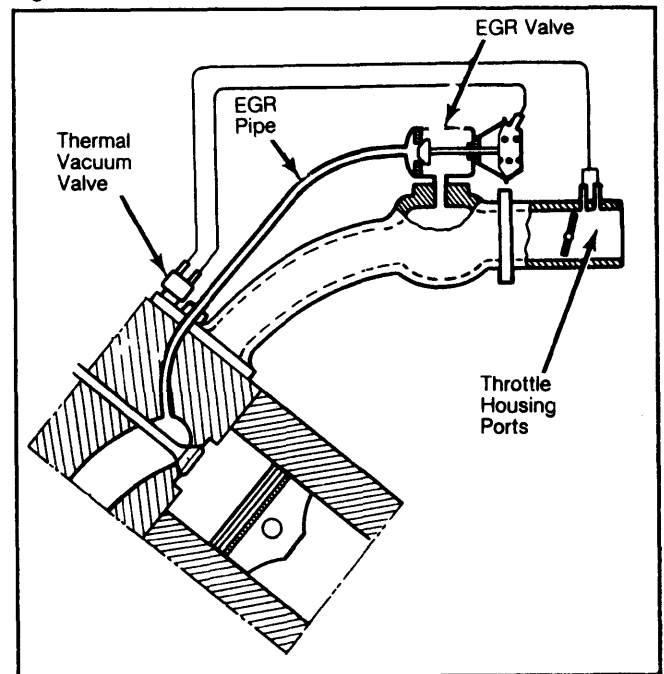
Fig. 1: Saab Turbo EGR System



NON-TURBO MODELS

System uses 2 throttle edge vacuum ports to modulate EGR valve opening. When throttle is closed, both outlets are subjected to atmospheric pressure and no vacuum is obtained. When throttle is open slightly, vacuum is present at 1 port and opens EGR valve part way. As throttle is opened further, both ports have vacuum and EGR valve is opened fully. Thermal vacuum switch prevents EGR operation below a coolant temperature of 113°F (45°C).

Fig. 2: Saab Non-Turbo EGR System



TESTING

1) Warm engine to normal operating temperature. Connect tachometer to engine. Increase engine RPM. Check that EGR valve opens at 1900 RPM on Turbo models or 2600 RPM on Non-Turbo models.

2) Return engine to idle. Disconnect EGR hose at thermal vacuum valve. Create a vacuum in the EGR valve using a vacuum pump or by sucking on the hose. Engine should run rough or stall. If not, replace valve.

3) Disconnect hoses from EGR valve and throttle housing vacuum port(s). Blow through hoses. Air should not pass when engine is cold, but should pass with engine warm.

MAINTENANCE

Every 5 years or 60,000 miles, perform the following maintenance procedures:

Remove throttle housing, EGR pipe and EGR valve. Clean valve and pipe with solvent and wire brush. Clean out port in intake manifold with .39" (10 mm) drill. Reinstall EGR valve with new gasket.