

## 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 the intake system. This reduces combustion chamber temperatures and lowers NOx emissions. The Turbo system uses a single stage EGR valve, thermal vacuum valve, orifice and throttle port vacuum source. All other models use an 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 when coolant is below 113°F (45°C).

#### NON-TURBO MODELS

The system uses 2 throttle edge vacuum ports to modulate the EGR valve opening. When the throttle is open slightly, vacuum is present at one port and opens the EGR valve part way. As the throttle is opened further, both ports have vacuum and the EGR valve is opened fully. The thermal vacuum switch prevents EGR operation below a coolant temperature of 113°F (45°C).

### TESTING

- 1) To determine whether EGR system is causing driveability or emissions problems, disconnect vacuum line at EGR valve. If problems stop, EGR system is at fault. If problems still exist, EGR valve may be stuck open, otherwise EGR system is not the cause.
- 2) Disconnect EGR valve hose at thermal vacuum valve. Apply 4 in. Hg vacuum to hose, then remove vacuum suddenly. Valve should be heard to close. If not, remove and clean valve. If valve closes, then start engine and apply vacuum to valve with engine idling. 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

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.

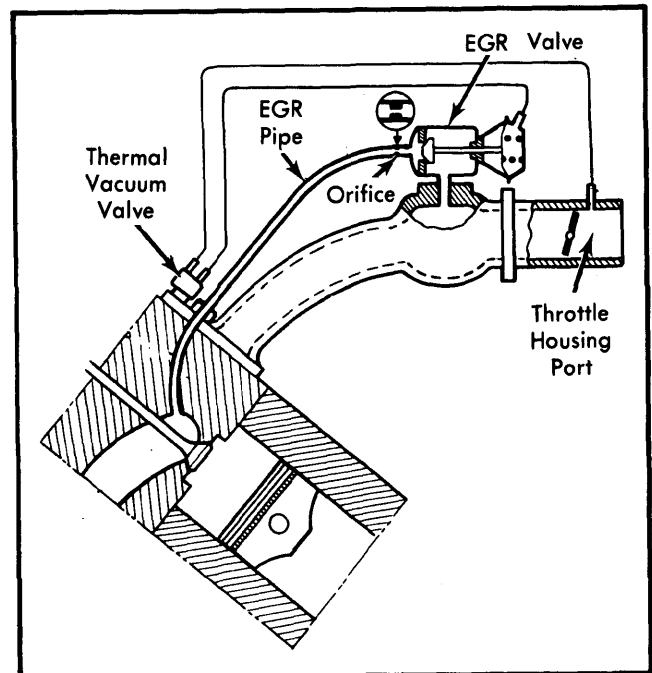


Fig. 1 Saab EGR System  
(Turbo Models)

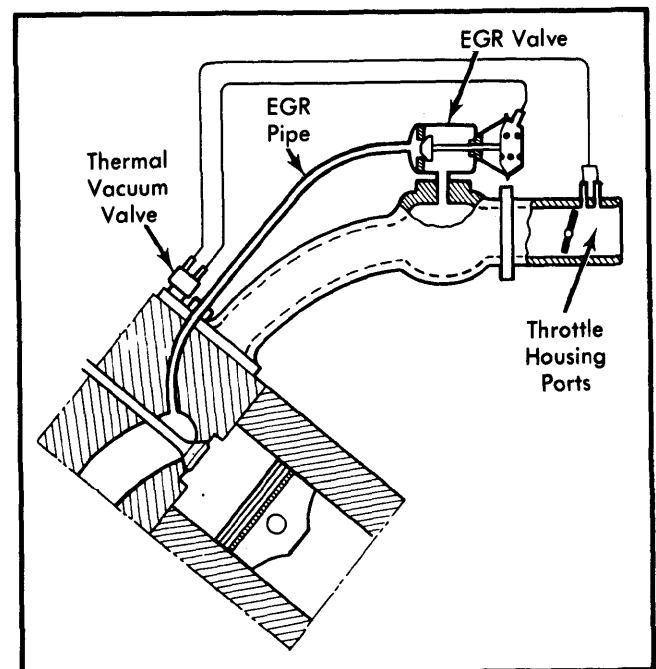


Fig. 2 Saab EGR System  
(Non-Turbo Models)