

## SUBARU AIR INJECTION SYSTEM

### All Models

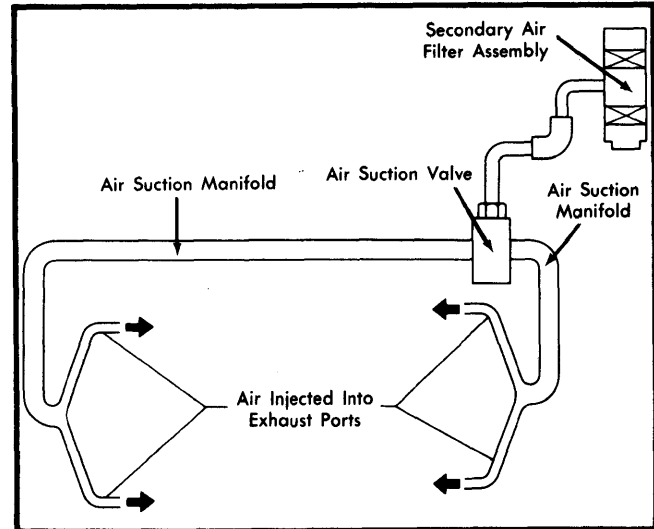
### DESCRIPTION

The Air Injection System used on Subaru models is a non-pump type air injection system which uses exhaust system pulses to draw fresh air into the exhaust system. This system reduces hydrocarbon (HC) and carbon monoxide (CO) emissions during low-speed and light load engine operating conditions. The system consists of an air suction valve (with internal reed valves), air suction manifolds and a secondary air filter assembly.

### OPERATION

This system operates on negative exhaust system pressure which occurs during valve overlap. This negative pressure means that the intake manifold pressure is greater than exhaust pressure. Gas pressure in each exhaust port is transmitted to the air suction valve. When this pressure is negative, the reed valves in the air suction valve are drawn open and fresh air from the air cleaner moves into the exhaust ports. When exhaust pressure is positive (greater than intake manifold

pressure), the reed valves are closed and no fresh air reaches the exhaust ports. This action also acts as a one-way check valve to prevent backfire flame from reaching the carburetor.



**Fig. 1 Subaru Air Injection System**