

AIR INJECTION SYSTEM

1988 Jeep Cherokee

1988 Exhaust Emission Systems
JEEP PULSE AIR INJECTION SYSTEM

4.2L

DESCRIPTION

Pulse air injection system is used to inject fresh air into exhaust system. When fresh air is injected into hot exhaust gases, combustion takes place. This reduces amount of unburned fuel that escapes into the atmosphere.

System consists of check valves, control valves, control valve solenoids, vacuum reservoir, vacuum lines and air lines. Pulse air system is capable of injecting air at both catalytic converter (downstream) or at front exhaust pipe.

OPERATION

Pulse air system uses alternating positive and negative pressure pulsations in exhaust system to draw in fresh air through air cleaner. Check valves are used to allow fresh air into exhaust, but prevent exhaust from flowing back into intake system.

Air is switched between upstream and downstream injection by 2 vacuum-operated control valves. Each control valve is switched by an electrically operated-vacuum solenoid.

Vacuum solenoids are switched on and off by MCU according to engine operating conditions. Vacuum storage tank maintains vacuum supply to switching solenoids.

DIAGNOSIS & TESTING

1) Check condition of all hoses and lines in system. Reroute any kinked or restricted hoses. Repair or replace any cracked or broken hoses. To check system operation, feel for suction in injection hoses at air cleaner.

2) If problem exists, check to see if vacuum is being supplied to the valve. If vacuum is not present at valve(s), check vacuum lines or ports.

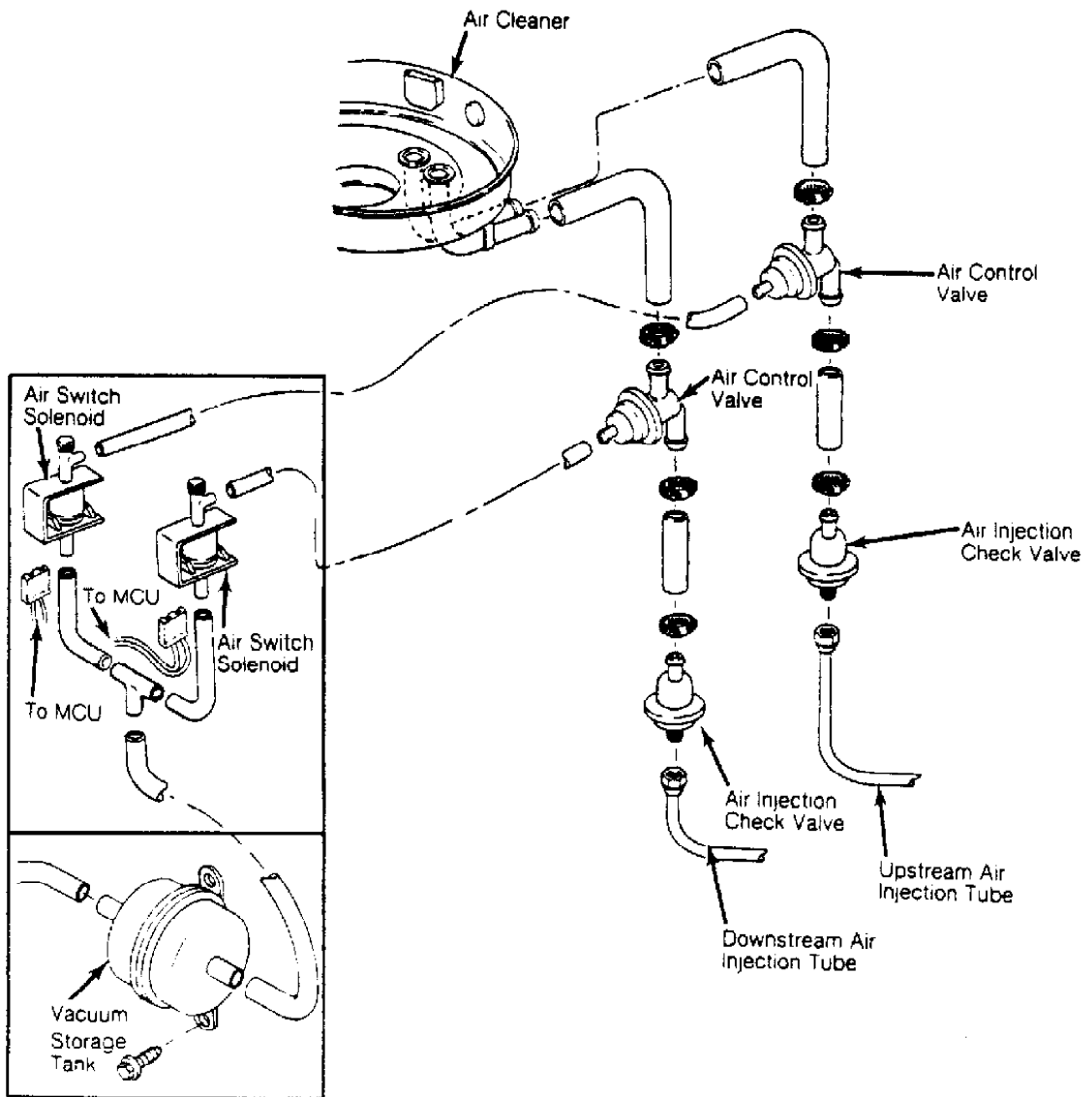


Fig. 1: Jeep Pulse Air Injection System
 Courtesy of Chrysler Motors.