1974-79 EXHAUST EMISSION SYSTEMS
Datsun Air Induction System

All 1979 Models (Exc. 280ZX)

DESCRIPTION

The air induction system is used to reduce hydrocarbon (HC) and carbon monoxide (CO) emissions by supplying filtered air to the exhaust manifold. System consists of an air induction valve, induction valve filter, an anti-backfire valve (if equipped), and various connecting hoses.

OPERATION

The air induction system is designed to send secondary air to the exhaust manifold, utilizing a vacuum created by exhaust pulsations in the exhaust manifold. Exhaust pressure in the exhaust manifold usually pulsates in response to the opening and closing of the exhaust valves, and periodically it decreases below atmospheric pressure. When this happens, a vacuum is created and a secondary air intake is opened and secondary air is drawn into the exhaust manifold in proportion to the vacuum.

AIR INDUCTION VALVE

The air induction valve, mounted on the air cleaner, is a reed valve type check valve. When exhaust pressure is lower than atmospheric pressure (negative pressure), the valve is open and secondary air is sent to the exhaust manifold. When exhaust pressure is higher than atmospheric pressure, the valve is closed and secondary air induction is shut off.

INDUCTION VALVE FILTER

The induction valve filter is installed on the air cleaner, behind the air induction valve. This filter purifies the secondary air to be sent to the exhaust manifold. The filter element should be replaced periodically in accordance with the vehicle maintenance schedule.

ANTI-BACKFIRE VALVE

The anti-backfire valve is used to prevent backfire in the exhaust system during deceleration on 210 models only. At the start of deceleration, the air/fuel mixture in the intake manifold becomes too rich to ignite and burn in the combustion chamber. The anti-backfire valve provides additional air to the intake manifold to make the air/fuel mixture leaner and prevent backfire. If the valve is faulty, unburned air/fuel mixture will be emitted to the exhaust manifold and ignite when mixed with secondary air, causing backfire.

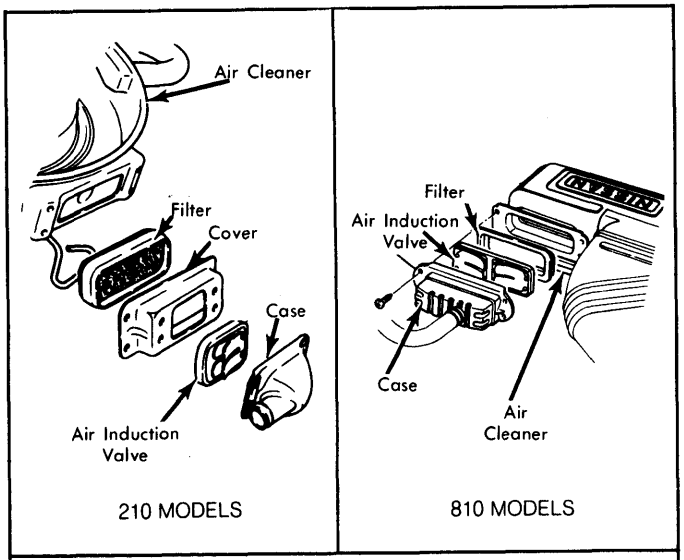

Fig. 2: Air Induction System Components

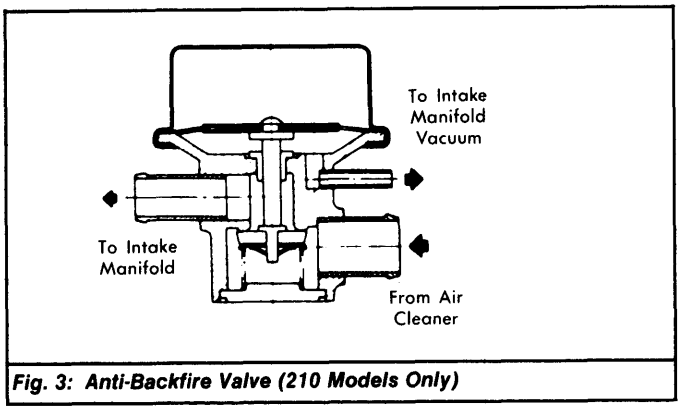

Fig. 3: Anti-Backfire Valve (210 Models Only)

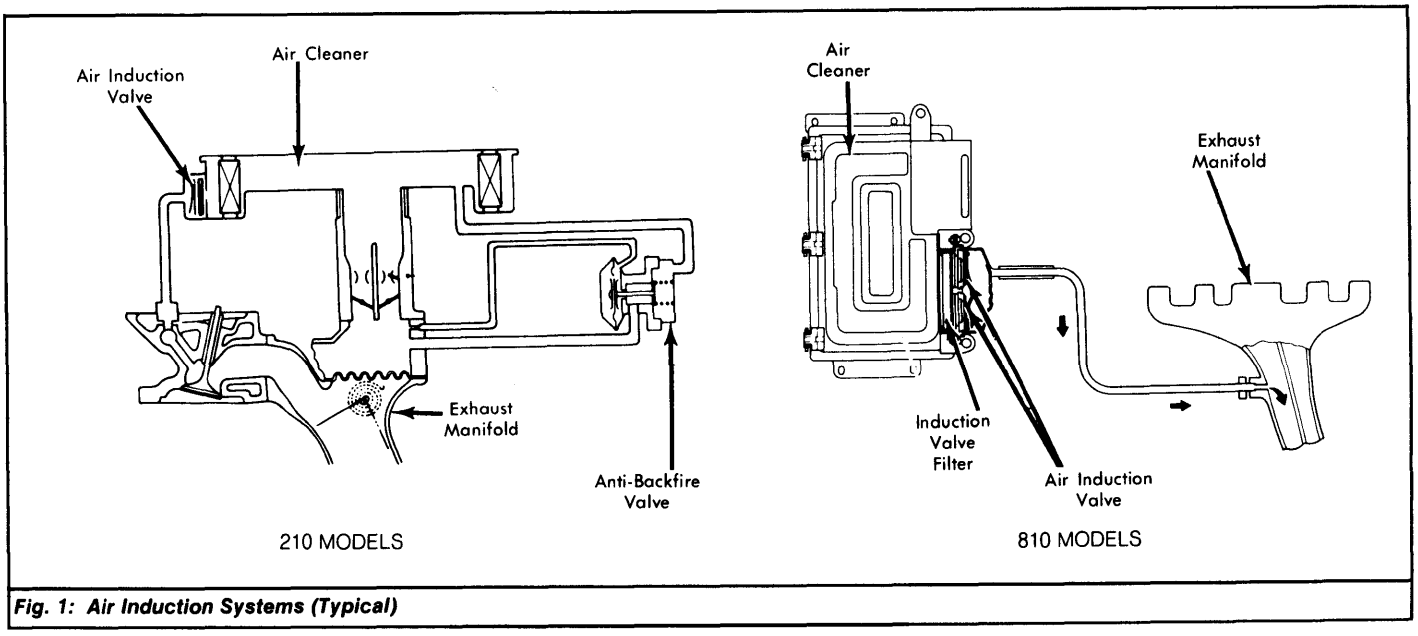

Fig. 1: Air Induction Systems (Typical)

1974-79 EXHAUST EMISSION SYSTEMS
Datsun Air Induction System (Cont.)

TESTING

AIR INDUCTION VALVE

Disconnect air induction valve hose at exhaust manifold. Apply suction to induction valve through hose and check air flow. Air should flow freely through valve. Next, apply air pressure to valve through hose and check air flow. Valve should now be closed, preventing air flow.

ANTI-BACKFIRE VALVE

210 Models Only - 1) With engine at normal operating temperature and idling, disconnect anti-backfire valve hose at air cleaner. Place finger over end of hose and increase engine speed to 3000 RPM.
2) Quickly release throttle and allow engine to return to idle. If vacuum is felt at end of hose, anti-backfire valve is functioning properly. If no vacuum is felt, replace anti-backfire valve.