DATSUN AIR INDUCTION SYSTEM

210
310
510
Pickup

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, air injection tubes, and various connecting hoses. An anti-backfire valve is also used on all models except California Pickup.

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.

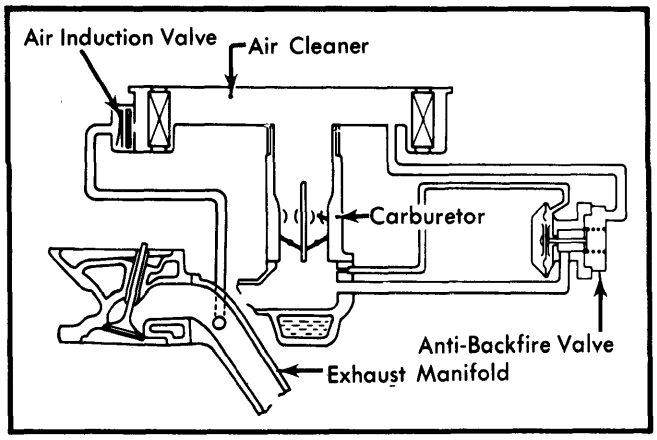

Fig. 1 Datsun Air Induction System (210 & 310 Shown, Other Models Similar)

AIR INDUCTION VALVE

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

INDUCTION VALVE FILTER

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

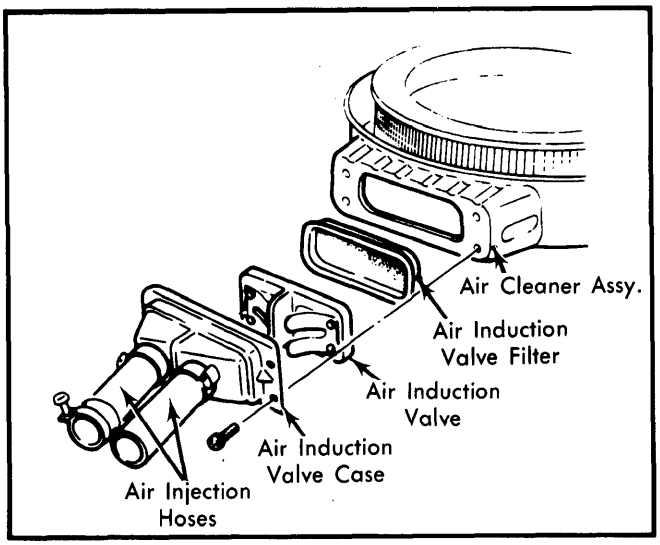

Fig. 2 Datsun Air Induction Valve

ANTI-BACKFIRE VALVE (210, 310, 510, AND FEDERAL PICKUP)

The anti-backfire valve is used to prevent backfire in the exhaust system during deceleration. 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.

TESTING

AIR INDUCTION VALVE AND FILTER

Disconnect air induction valve hoses at exhaust manifold. Apply suction to induction valve through hose and check for air flow. Air should flow freely through valve. Next, apply air pressure to valve through hose and check for air flow. Valve should now be closed, preventing air flow. Check air induction filter for damage or blockage. Replace defective parts as necessary.

ANTI-BACKFIRE VALVE (210, 310, 510, AND FEDERAL PICKUP)

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, then quickly release throttle and allow engine to return to idle.

2) If vacuum is felt at end of hose, anti-backfire valve is functioning properly. If no vacuum is felt, replace anti-backfire valve.