Chrysler Corp. Orifice Spark Advance Control

1977 Arrow, Colt

DESCRIPTION

The Orifice Spark Advance Control (OSAC) valve, located between the distributor and carburetor, is a device for controlling oxides of nitrogen (NOx) and hydrocarbon (HC) emissions.

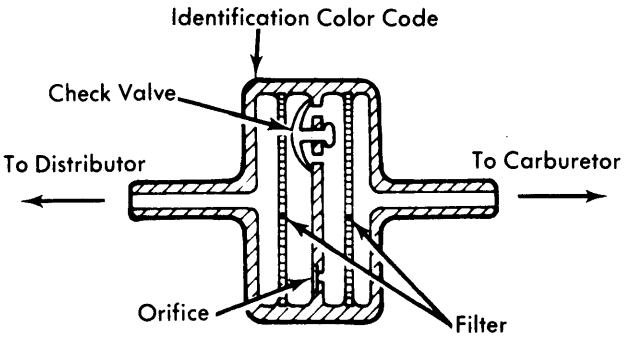

Fig. 1: Cutaway View Of OSAC Valve

OPERATION

The OSAC valve delays vacuum spark advance during vehicle acceleration by restricting the flow of air from distributor vacuum advance chamber to carburetor vacuum port. During closed throttle deceleration or wide open throttle acceleration, the carburetor port vacuum drops below the level of vacuum in distributor vacuum advance chamber, and there is no delay in retarding the spark ignition timing. A one-way valve permits the vacuum advance chamber to respond to a lower vacuum instantly.

On California and high altitude vehicles, the OSAC valve is deactivated by a thermo valve when coolant temperature is 104°F (40°C) or below, in order to reduce HC emissions and to retain vehicle driveability after cold engine starting.

TESTING

To test for proper operation of OSAC valve, blow into both sides of valve. If resistance is felt when blowing into colored side of valve and no resistance is felt when blowing into the other side of valve, the valve is working properly. If resistance is encountered in both directions, the orifice and/or filter is clogged and valve should be replaced.

MAINTENANCE

When installing OSAC valve, ensure that colored side of valve faces distributor. Since the valve differs from engine to engine, always ensure that correct color coded valve is installed. See OSAC VALVE IDENTIFICATION table.

OSAC VALVE IDENTIFICATION

Application	Color Code
1600 cc	
Man. Trans.	
Federal	Brown
Calif.	Red
Auto. Trans.	Yellow
2000 cc	
Man. Trans.	
Federal	Yellow
Calif.	Red
Auto. Trans.	Yellow