1975-79 EXHAUST EMISSION SYSTEMS
Ford Motor Co. Vacuum Delay Valves

DESCRIPTION

Vacuum Delay Valves (VDV) are used on many engine applications to permit closer control of vacuum-operated emission control devices. All VDVs have internal sintered orifices to permit a restricted air flow in one direction, a check valve to allow free air flow in the other direction and a filtering device to keep dirt and moisture from the emission control devices.

NOTE: For location and name of various VDVs, refer to appropriate FORD MOTOR CO. VACUUM DIAGRAM in this section.

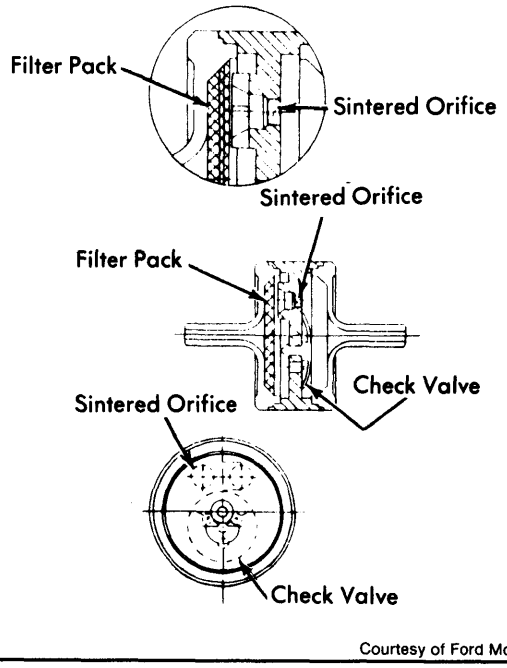
OPERATION

By slowing, or restricting, vacuum signals to their respective emission control devices, the VDVs help regulate the vacuum signal being applied. Since engine vacuum levels vary with engine operating modes, it is important to control the vacuum signal.

TROUBLE SHOOTING

If valve is defective or installed backwards, engine will idle roughly, ping, and/or increase fuel consumption. When blowing air through valve by mouth, air will appear to flow in one direction only. This should not be misinterpreted as direction of vacuum flow.

NOTE: Ensure Black (inlet side) of Vacuum Delay Valve and By-Pass Check Valve are connected to vacuum line leading to carburetor.



Courtesy of Ford Motor Co.

Fig. 1: Sectional Views of Vacuum Delay Valve

TESTING

DELAY VALVE TIME TEST

1) Connect appropriate side of delay valve to an external vacuum source set at 10 in. Hg. See VACUUM DELAY VALVE TESTING table.

2) Connect a 24" length of vacuum hose and vacuum gauge to the other side of the delay valve. Apply vacuum, observe gauge and note time in seconds required to go from 0-8 in. Hg.

NOTE: A steady 10 in. Hg vacuum must be applied by external vacuum source during this test.

3) If delay valve tested does not come within time limits, replace valve and repeat test. See VACUUM DELAY VALVE TIME SPECIFICATIONS table.

VACUUM DELAY VALVE TESTING

Valve Type	Vacuum Source Side	Vacuum Gauge Side
Mono VDV	Black	Color
Retard VDV	Color	White
Air Cleaner VDV	Color	White
Air Injection VDV	Color	White

VACUUM DELAY VALVE TIME SPECIFICATIONS

Application	Min. Delay In Seconds	Max. Delay In Seconds
Mono VDV		
Black & Gray	0.6	1.6
Black & Brown	1.0	3.0
Black & White	2.7	9.3
Black & Yellow	4.5	13.2
Black & Blue	6.8	18.8
Black & Green	8.0	26.0
Black & Orange	11.6	38.0
Black & Red	14.0	47.2
Retard VDV		
White & Gray	0.6	1.6
White & Brown	1.0	3.0
White & Green	8.0	26.0
White & Blue	8.0	26.0
Air Cleaner VDV		
White & Red	14.0	47.2
White & Blue	8.0	26.0
Air Injection VDV		
White & Red	14.0	47.2
White & Green	8.0	26.0
White & Blue	8.0	26.0