

## FORD MOTOR CO. SPARK DELAY VALVE

### DESCRIPTION

Valve is a one-way valve that incorporates two sintered metal discs which delay vacuum spark advance during acceleration. *NOTE* — System will not operate properly if the valve is installed backwards. It is imperative that the BLACK side of the valve be connected to the vacuum line leading to the carburetor. Also incorporated is a rubber check valve which is used to bleed vacuum from the distributor vacuum unit in order to permit immediate vacuum retard when decelerating.

### OPERATION

Valve is installed in the carburetor vacuum line near the distributor vacuum advance unit. Purpose of the valve is to delay vacuum spark advance during periods of acceleration and still permit immediate spark retard on deceleration. The length of the spark delay will vary with engine application. Several different valve are used and they can be identified by a color code.

### TROUBLE SHOOTING

If valve is defective or installed backwards, engine will idle roughly, ping, and fuel consumption will be greatly increased. When blowing air through valve by mouth, air will appear to flow in one direction. This should not be misinterpreted as the direction of vacuum flow. *NOTE* — It is very important that the BLACK side of the valve be connected to the vacuum line leading to the carburetor.

### TESTING

1) With engine in Neutral, set carburetor to fast idle position. Remove spark delay valve and connect a vacuum gauge to the vacuum hose leading to the carburetor. Record vacuum, it should be between 10"-16" Hg. for tests. Pinch off vacuum hose to gauge and observe if gauge maintains vacuum level. If vacuum drops with hose pinched off, gauge or vacuum hose has an external leak which must be corrected.

2) After completing Step 1, connect BLACK side of spark delay valve to vacuum hose leading to carburetor. Connect vacuum gauge to hose leading from DISTRIBUTOR side of spark delay valve. Start engine, and with carburetor set to fast idle position, note time in seconds for gauge to reach 6" Hg. with a 10"-16" Hg. vacuum source.

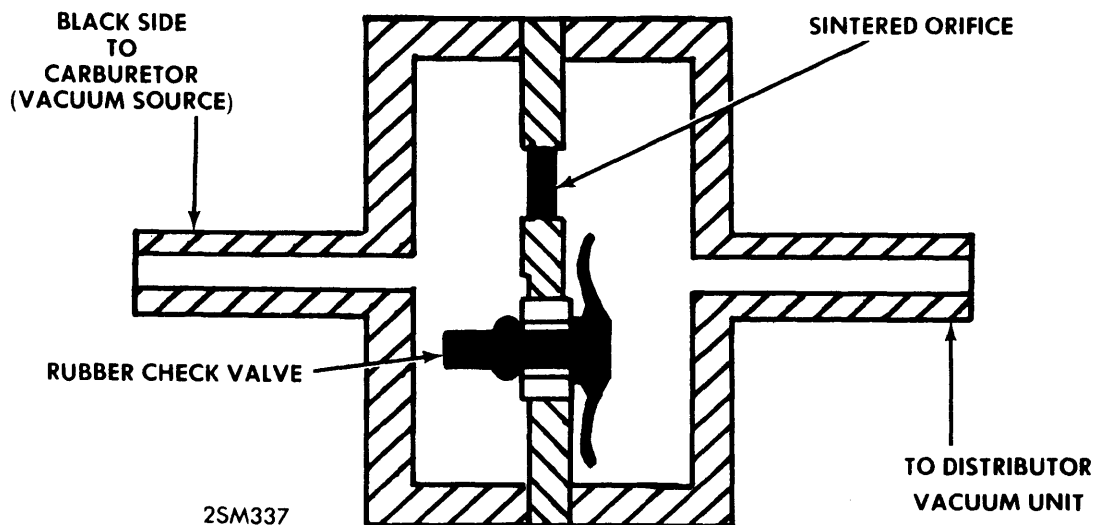
3) Maximum time for each type valve to reach 6" Hg. should be as follows:

| Valve Color Code    | Time in Seconds |         |
|---------------------|-----------------|---------|
|                     | Minimum         | Maximum |
| Black & Gray.....   | 1               | 4       |
| Black & Brown.....  | 2               | 5       |
| Black & White.....  | 4               | 12      |
| Black & Yellow..... | 5               | 14      |
| Black & Blue.....   | 7               | 16      |
| Black & Green.....  | 9               | 20      |
| Black & Orange..... | 13              | 24      |
| Black & Red.....    | 15              | 28      |

*NOTE* — If vacuum reaches 6" Hg. level in less than two seconds, valve, regardless of type, must be replaced.

### MAINTENANCE

Spark delay valve must be replaced every twelve months or twelve thousand miles, whichever comes first. The replacement valve must be the same color as the original. *NOTE* — Direction of flow of vacuum cannot be determined by blowing through valve.



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