1975-79 EXHAUST EMISSION SYSTEMS
Ford Motor Co. Cold Lock-Out Spark System

1978 Models

DESCRIPTION

The cold lock-out spark system provides momentary spark advance lock-out (hold) during cold engine acceleration, improving cold engine driveability. System consists of a cold lock-out Ported Vacuum Switch (PVS) and an in-line vacuum restrictor. *See Fig. 1.*

OPERATION

When engine coolant is below 128°F, PVS is closed and manifold vacuum passes through the restrictor to the distributor vacuum advance. When heavy acceleration is applied, manifold vacuum is bled off slowly through the restrictor. This avoids a sudden ignition timing retard on cold engine acceleration. When engine coolant temperature is above 128°F, PVS opens allowing vacuum to flow unrestricted.

TESTING

COLD LOCK-OUT SPARK SYSTEM

1) Remove air cleaner. Remove air cleaner Vacuum Delay Valve (VDV). Test air cleaner VDV before continuing with test. See FORD MOTOR CO. VACUUM DELAY VALVE article in this section. If VDV checks defective, replace with new VDV at end of testing.

2) Install a temporary connector in vacuum hose where VDV was removed. Install a test vacuum "T" and vacuum gauge in vacuum hose at distributor. With engine coolant below 128°F, accelerate engine quickly to 2500 RPM and release throttle. Vacuum at distributor should bleed off slowly. If not, replace restrictor.

3) With engine coolant above 128°F, repeat engine acceleration test. Vacuum to distributor should rise and fall with throttle operation with no delay. If vacuum is still delayed, replace PVS. Remove temporary connector and install VDV.

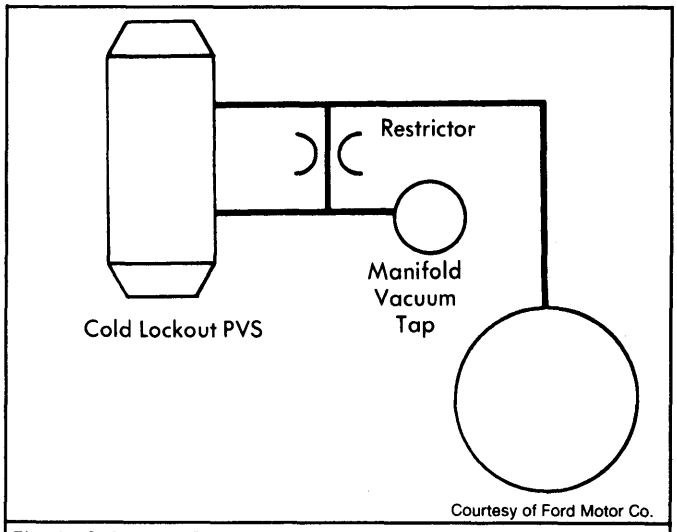

Fig. 1: Cold Lock-Out Spark System