CHRYSLER CORP. IDLE ENRICHMENT SYSTEM

DESCRIPTION

Idle Enrichment System is designed to reduce cold engine stalling by use of a metering system related to the basic carburetor instead of choke. It is used on some vehicles with automatic transmissions and Light Duty cycle emissions. System enriches carburetor mixtures in curb idle and fast idle area during cold or semi-cold operation. System consists of a vacuum idle enrichment valve, coolant vacuum switch or solenoid vacuum switch and electric timer combination.

OPERATION

When vacuum is applied to enrichment valve diaphragm, idle air is reduced. As a result of less idle air, air/fuel mixture is enriched. On coolant vacuum switch; when engine is cold, switch is open and vacuum is applied to enrichment valve. When engine warms to 98°F, switch closes and engine returns to normal lean mixture condition. On solenoid vacuum valve; switch receives its vacuum signal from a solenoid valve which is operated by an electric timer. Enrichment duration is approximately 35 seconds after engine start or until switch closes at 150°F (98°F on some models). All switches open approximately 12°F below closing temperature.

TESTING

System Test – 1) With engine at normal operating temperature, remove air cleaner but DO NOT cap any vacuum fittings opened by hose removal (leakage needed for test).

2) Disconnect hose to idle enrichment valve at plastic connector (connector has a filtered bleed which will interfere with test, so it must be removed). Start engine place fast idle screw on slowest step of fast idle cam. Connect 3-4' length of hose to enrichment valve .

3) Apply vacuum with a hand pump to end of hose and listen for engine speed change. If engine speed can be controlled by vacuum, diaphragm and air valve are operating correctly. If speed cannot be controlled by vacuum, replace valve assembly (Holley carburetors) or proceed to next step (Carter carburetors).

4) Place finger on the other plug over air inlet passage and listen for engine speed change. If speed can be controlled, diaphragm is leaking or air valve is stuck open. If speed cannot be controlled, air valve is stuck closed. Clean air valve or replace diaphragm as necessary.

NOTE – *In the following procedure on some vehicles, timing module and solenoid valve serve a dual function of controlling both EGR delay and idle enrichment duration.*

Time Delay Test – 1) With ignition switch off, remove wiring connector from time delay solenoid valve. Place a test light across connector terminals.

2) Start engine, test light should come on and stay on for approximately 60 seconds after engine starts. If light does not come on or stays on indefinitely, replace timer.

NOTE – *Test light current should not exceed .5 amps. or damage to timer may occur.*

Coolant Vacuum Switch – 1) Disconnect molded connector from valve and attach a 1/8" I.D. hose to bottom port of valve. With radiator top tank warm to touch (no warmer than 75°F), blow through hose. If air cannot be blown through valve, replace valve.

2) Bring engine to normal operating temperature. Attach a vacuum pump and gauge to bottom port of valve. Apply ten inches of vacuum. If vacuum level drops more than one inch in 15 seconds, replace valve.

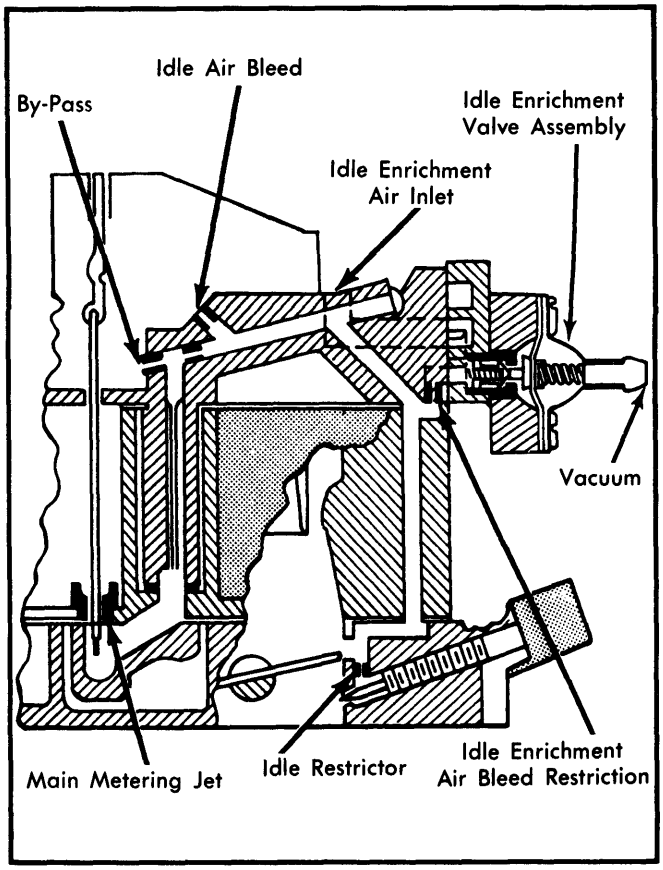

Fig. 1 Sectional View of Chrysler Corp. Idle Enrichment System

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