1974 FORD MOTOR CO. COLD TEMPERATURE ACTIVATED VACUUM (CTAV) SYSTEM

DESCRIPTION

Cold Temperature Activated Vacuum System (CTAV) is designed to select either carburetor spark port vacuum or carburetor EGR port vacuum as a function of ambient air temperature. The selected vacuum source is used to control distributor vacuum advance unit. System consists of an ambient temperature switch, a three-way vacuum valve, an external vacuum bleed and a latching relay. *NOTE — CTAV and EGR systems work independently of each other with no interaction between the systems.*

OPERATION

Temperature switch activates solenoid which is open at temperatures of 49°F and below, and is closed at temperatures of 65°F and above. In between, it may be either open or closed. Below 49°F system is inoperative and distributor diaphragm receives carburetor spark port vacuum, while EGR valve recieves carburetor EGR port vacuum. When temperature switch closes (above 65°F), current from battery energizes the three-way solenoid vacuum valve and carburetor EGR port vacuum is delivered to distributor advance diaphragm, as well as EGR valve. The latching relay (normally "OFF") is also energized by closing of temperature switch. However, once "ON", it receives its energy through ignition switch and stays "ON" until ignition switch is turned "OFF", regardless of whether temperature switch is opened or closed.

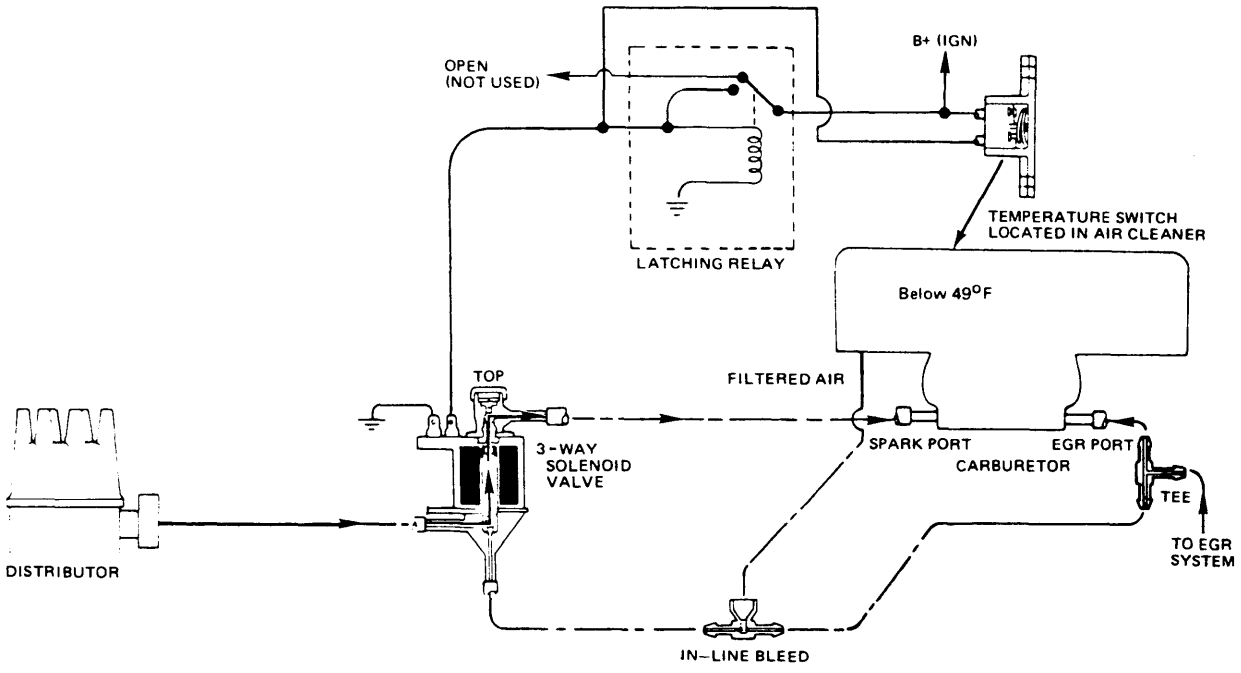
SYSTEM CHECKING

VACUUM TEST

Connect a tachometer to engine. Connect a vacuum gauge to hose at point "A" (see illustration). Ensure that temperature sensing switch is over 65°F. Disconnect lead at point "B".

1) Run engine at 1500 RPM, vacuum should be approximately 15 in. Hg. If there is no vacuum, check vacuum source back to carburetor spark port.

2) Connect lead at point "B". There should be no or low vacuum. If there is vacuum, check vacuum valve ground and electrical source back to ignition switch.



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CTAV SYSTEM (BELOW 49°F)

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3) Run engine to 3,000 RPM, vacuum should be approximately 9 in. Hg. If there is no vacuum, check vacuum source back to carburetor EGR port.

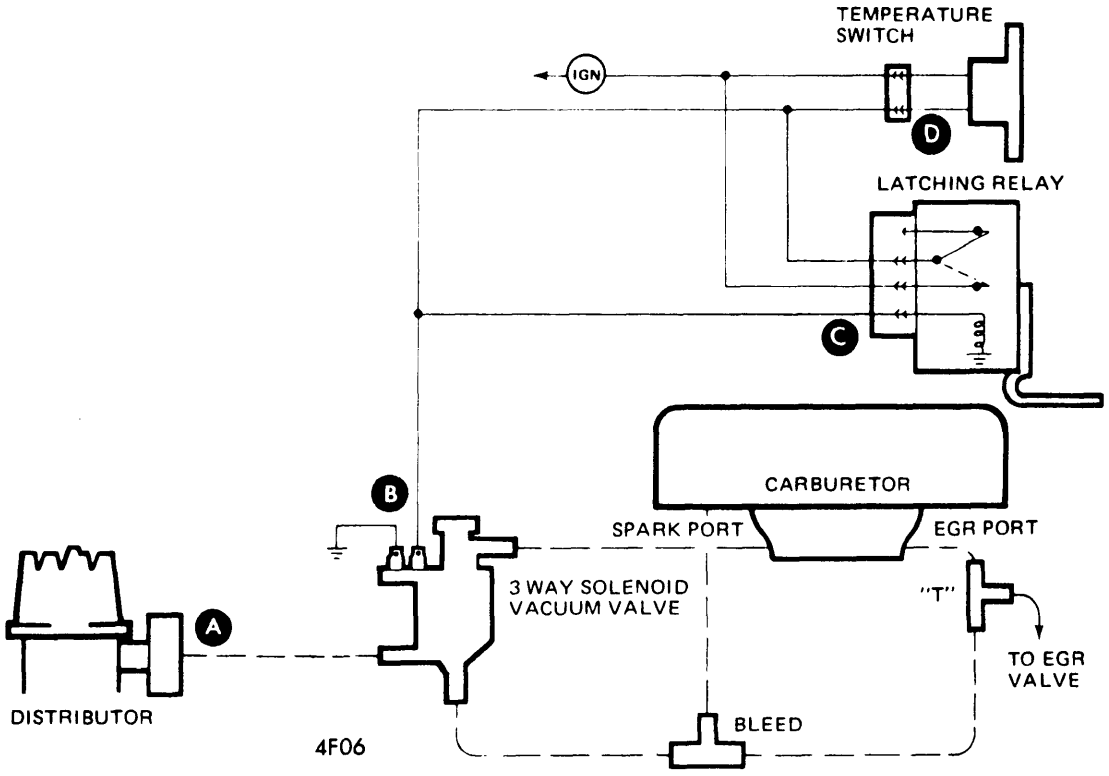
ELECTRICAL TEST

1) Attach a grounded testlight at point "B". Disconnect connector at point "D" and turn ignition "ON". There should be no light, if there is a light, replace latching relay.

2) Reconnect connector at point "D", there should be a light. If there is no light, check temperature switch and wiring back to ignition switch.

3) Disconnect connector at point "D", there should be a light. If there is no light, replace latching relay.

4) Connect test light to temperature switch terminal at point "D". Cool switch below 49°F, light goes out when cooled. If light stays on, replace temperature switch.



TEST CONNECTIONS FOR CTAV SYSTEM