

1975-79 EXHAUST EMISSION SYSTEMS

Cold Temperature Activated Vacuum

3-125

1975-76 Ford Motor Co.

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 3-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 receives carburetor EGR port vacuum.

When temperature switch closes (above 65°F), current from battery energizes 3-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.

Once on however, it receives and stays on until ignition switch is turned off regardless of whether temperature switch is opened or closed.

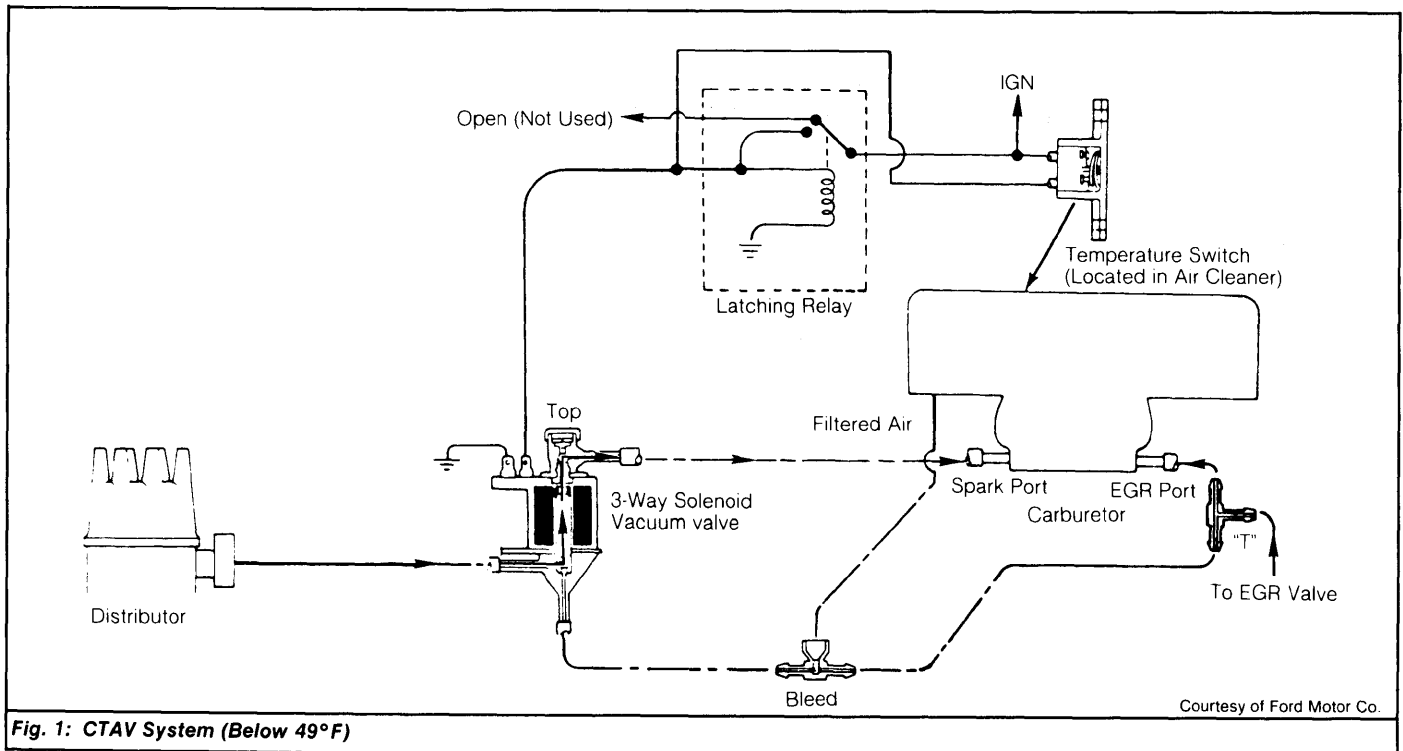
SYSTEM CHECKING

VACUUM TEST

- 1) Connect a tachometer to engine. Connect a vacuum gauge to hose at point "A". See Fig. 2. Ensure temperature sensing switch is over 65°F. Disconnect lead at point "B".
- 2) Run engine at 1500 RPM, vacuum should be about 15 in. Hg. If not, check vacuum source back to carburetor spark port.
- 3) Connect test lead at point "B". See Fig. 2. There should be no or low vacuum. If vacuum is present, check vacuum valve ground and electrical source back to ignition switch.
- 4) Run engine at 3000 RPM, vacuum should be about 9 in. Hg. If not, check vacuum source back to carburetor EGR port.

ELECTRICAL TEST

- 1) Attach a grounded test light at point "B". Disconnect connector at point "D" and turn ignition on. See Fig. 2. There should be no light. If light is present, replace latch relay.
- 2) Reconnect connector at point "D", there should be a light. If not, check temperature switch and wiring back to ignition switch.
- 3) Disconnect connector at point "D", test light should remain lit. If not, replace latching relay.
- 4) Connect test light to temperature switch terminal at point "D". Cool switch below 49°F, light should go out. If not, replace temperature switch.



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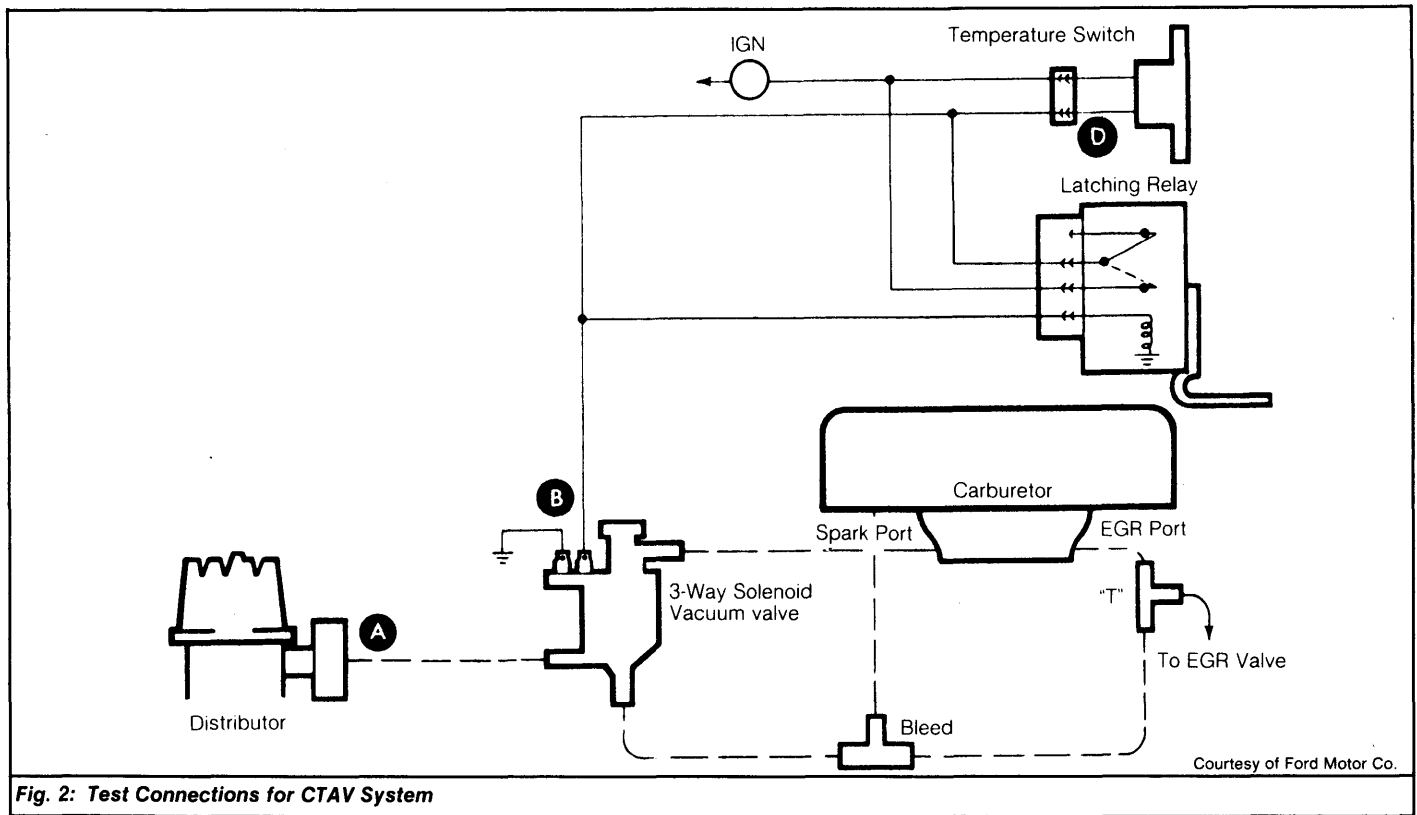


Fig. 2: Test Connections for CTAV System