

1975-79 EXHAUST EMISSION SYSTEMS

Ford Motor Co. Vacuum Heat Control Valve

1975-77 Models

DESCRIPTION

Vacuum Heat Control (VHC) Valves are used on all engines except 460" engines. Unit consists of a housing and butterfly exhaust valve controlled by a vacuum motor. The VHC valve is installed between exhaust pipe and exhaust manifold. The VHC valve system also incorporates a Ported Vacuum Switch (PVS) and an intake manifold vacuum tap to control VHC valve operation.

OPERATION

On cold starts, manifold vacuum is directed to VHC valve through the top two ports of the VHC PVS, closing the VHC valve against spring in vacuum motor. When engine coolant reaches a specified temperature. See VHC PVS IDENTIFICATION chart. The VHC PVS shuts off vacuum supply and vents VHC valve vacuum to atmosphere when engine coolant temperature reaches PVS opening temperature value. This allows the spring in the vacuum motor to open the VHC butterfly valve.

VHC PVS IDENTIFICATION CHART

PVS Body Color	Opening Temp. (°F)
Black	92-98
Blue	125-131
Purple	157-163

TESTING

- 1) Visually inspect VHC valve for damage, repair or replace as necessary. Check vacuum source for proper operation.
- 2) Using an external vacuum source, apply specified vacuum to VHC vacuum motor and hold for one minute. See VHC VACUUM SPECIFICATIONS table.
- 3) VHC butterfly valve must start to close and be completely closed when specified vacuum is applied. Vacuum motor must not leak more than 2 in. Hg vacuum when 15 in. Hg of vacuum is applied.
- 4) Release vacuum. The VHC butterfly valve must return to full open position when vacuum is released.

NOTE: VHC butterfly valve is considered closed if the shaft lever comes within .065" of the stop.

VHC VACUUM SPECIFICATIONS

Engine	Start Closing (in. Hg)	Closed (in. Hg)
302"	1-3	6 or Less
351 W"	1-3	6 or Less
All Others	3-6	10 or Less

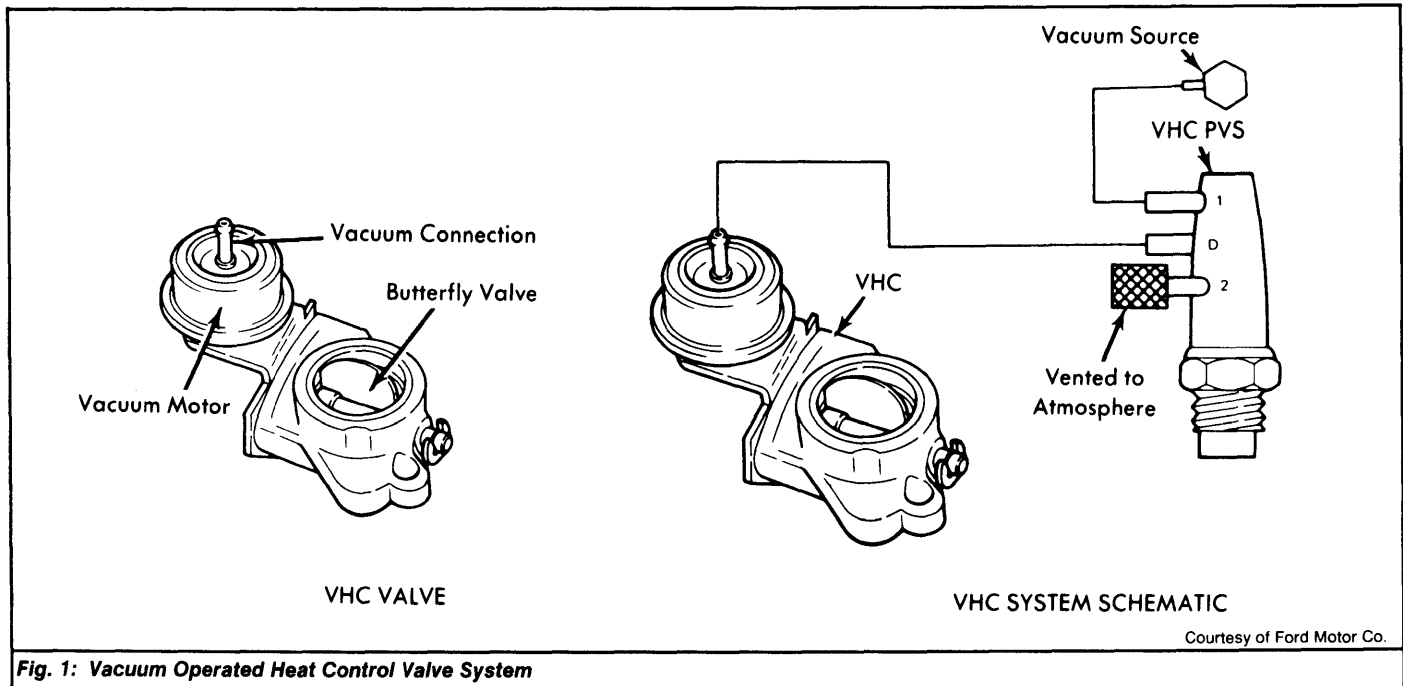


Fig. 1: Vacuum Operated Heat Control Valve System

Courtesy of Ford Motor Co.