

## HONDA

## All Models

## DESCRIPTION

Honda Evaporative Emission Control System prevents gasoline vapors from escaping into the atmosphere from fuel tank and carburetor. System consists of a pressure/vacuum relief fuel filler cap, a fuel tank with a built in expansion chamber, a liquid/vapor separator, a two-way valve, a charcoal canister, air vent cut-off diaphragm, vacuum holding solenoid valve, purge control diaphragm valve, and purge control unloader solenoid valve. Accord and Prelude have a by-pass solenoid valve at the fuel tank, and Calif. 5-speed Accord and Prelude use a power valve vacuum holding solenoid and check valve. Hoses connect the valves, canister and fuel tank.

**NOTE** — All Accord and Prelude models use a vented gas cap, as do late production Civic models. Some early Civics may have non-vented cap.

## OPERATION

When gasoline and vapor in the fuel tank expand, they force open the 2-way valve. Liquid fuel is separated and returned to the tank, while vapors pass to the canister and are adsorbed by the charcoal filter. Excess air is vented to the atmosphere.

When the engine is started, the primary main fuel cut-off solenoid valve opens, allowing manifold vacuum to the purge control valve and the vacuum holding solenoid valve. Vacuum is sent to the air vent cut-off diaphragm so it will open and vent the float bowls. When the engine is warm, the thermostats opens and operates the purge control solenoid, vacuum flows to the canister purge diaphragm, and air is drawn through to purge the canister. On Accord and Prelude models, the by-pass solenoid valve opens when the engine is warm, so tank vapors bypass the 2-way valve and move directly to the canister. See Fig. 1.

## TESTING

**Purge Control Diaphragm Valve and Thermosensor — 1)** With engine cold, there should be continuity across the terminals of thermosensor. Disconnect upper hose at purge control valve on canister. Connect a vacuum gauge to hose and start engine. No vacuum should be present.

**2)** With engine at normal operating temperature, disconnect upper hose from purge control valve. Connect a vacuum gauge and start engine. Vacuum should appear on gauge. If not, check thermosensor or solenoid valve (in emission control box, left side of back row).

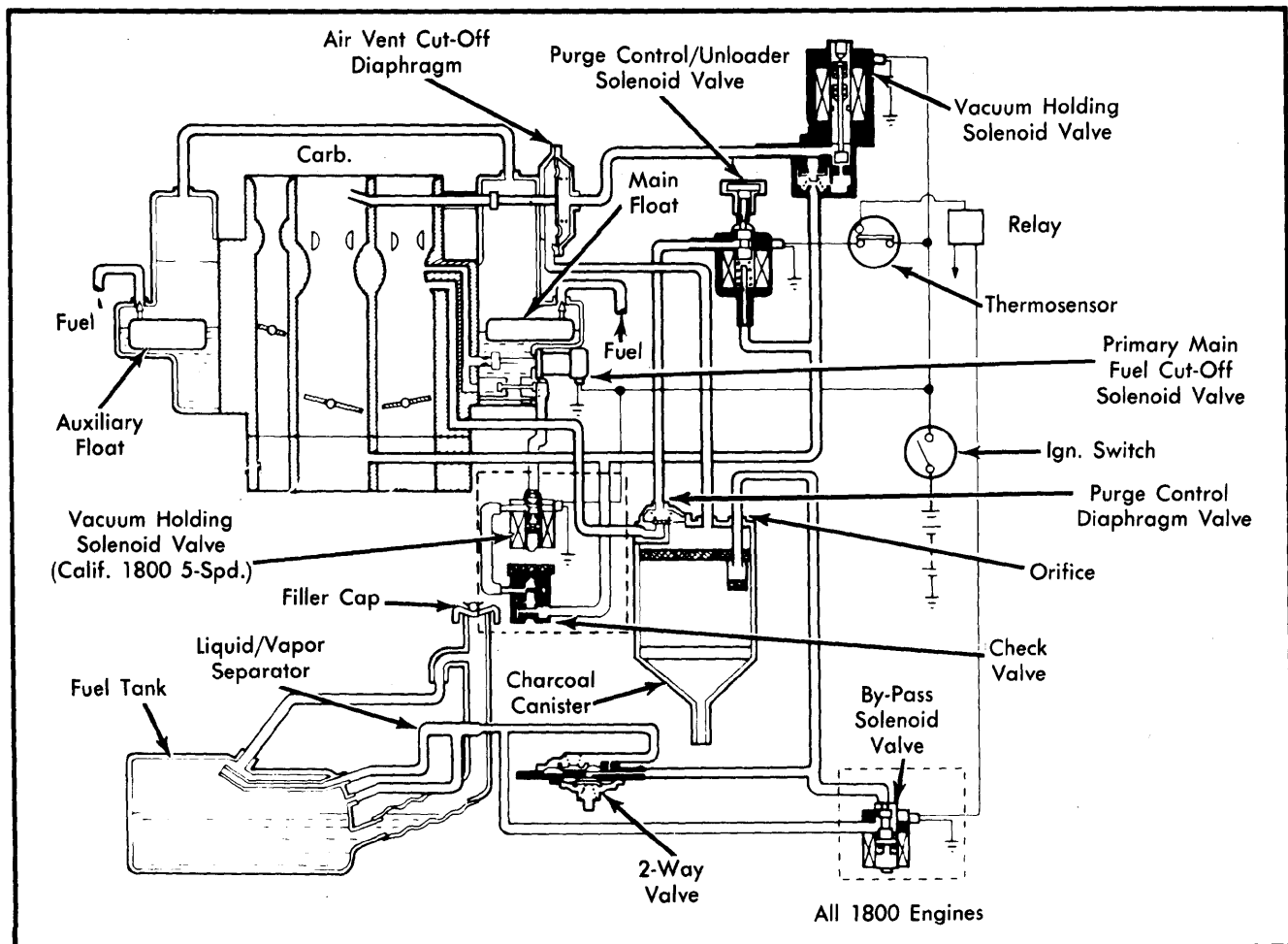


Fig. 1 Honda Evaporative Control System

## HONDA (Cont.)

**Canister and By-Pass Solenoid Valve** – 1) Remove gas tank cap. Pry canister purge air hose from frame near canister and connect vacuum gauge. Run engine at 3500 RPM.

2) Vacuum should appear on gauge within one minute. If not, check 2-way valve. Connect a vacuum pump to canister fitting normally connected to tank. It should not be possible to pull a vacuum reading. If vacuum builds up, canister vent is plugged.

3) On 1800 engines only, connect vacuum pump to hose from fuel tank. Start engine; no vacuum should be present on gauge. Stop engine, connect vacuum pump to tank hose, and turn ignition "ON" without starting engine. Pull a vacuum with pump and hold. Vacuum should hold steady and not drop.

**Two-Way Valve** – 1) Remove gas cap and disconnect fuel vapor hose from liquid/vapor separator. Attach vacuum pump with gauge reading from 0-5 in. Hg. Slowly draw vacuum while observing gauge.

2) Vacuum should stabilize at .2-.6 in. Hg as 2-way valve opens. Reverse pump and gauge connections and slowly pressurize vapor hose. Pressure should momentarily stabilize at 1.4-2.8 in. Hg as 2-way valve opens. If not, check hose connections or replace valve.

**Air Vent Cut-Off Diaphragm and Vacuum Holding Solenoid Valve** – 1) Disconnect hose at air vent cut-off

diaphragm (on carburetor) and connect a vacuum pump to hose. Turn ignition "ON" and draw a vacuum; it should hold steady. When ignition is turned "OFF" vacuum should drop to zero.

2) Start engine and allow to idle. Vacuum should appear on gauge of pump. Stop engine and connect vacuum pump to air vent cut-off diaphragm tube and draw vacuum. If vacuum does not hold, replace diaphragm.

**Power Valve and Solenoid Valve (Calif. 1800 only)** –

1) Remove hose from power valve (on carburetor), connect vacuum pump to hose and draw a vacuum with ignition switch turned "ON". Vacuum should hold steady until switch is turned "OFF", then drop to zero.

2) Connect vacuum gauge to hose from power valve. Start engine and run at idle, vacuum should be present. When engine is turned off, vacuum should not drop. Connect pump to power valve and draw vacuum. Vacuum should hold steady.

## MAINTENANCE

Inspect system, hoses, and connections and test all components at 60,000 miles.