1982 Exhaust Emission Systems

HONDA PULSE AIR SYSTEM

Accord, Civic, Prelude

DESCRIPTION

All models are equipped with a Pulse Air System (also called Secondary Air Supply System). This system makes use of vacuum pulses in exhaust manifold to draw air from air cleaner to exhaust manifold, thus preventing catalytic converter from overheating.

OPERATION

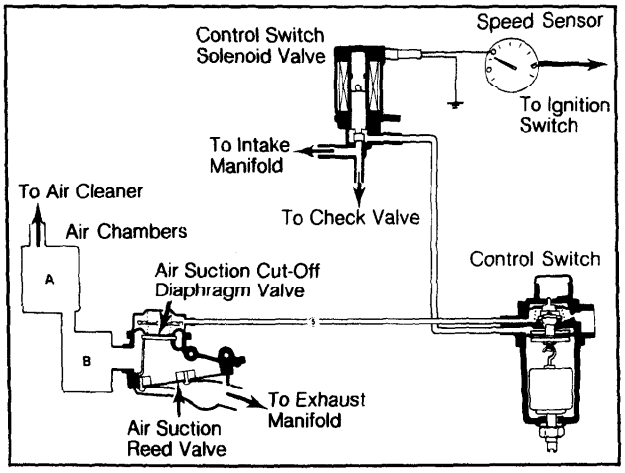
When vehicle exceeds set speed of speed sensor and manifold vacuum is above set vacuum of control switch, control switch solenoid valve and control switch are open. Thus, manifold vacuum is applied to air suction diaphragm valve to open secondary air passage.

When negative pressure induced by pulsation in exhaust manifold makes air suction reed valve open, fresh air enters exhaust manifold. Bellows of control switch compensates switch operation in response to atmospheric pressure. Air chambers act as silencers to reduce exhaust noise.

TESTING

1) Disconnect and plug lower air suction hose from anti-afterburn valve. Raise and support front of vehicle. Remove air cleaner cover and filter.

Fig. 1: Honda Pulse Air System



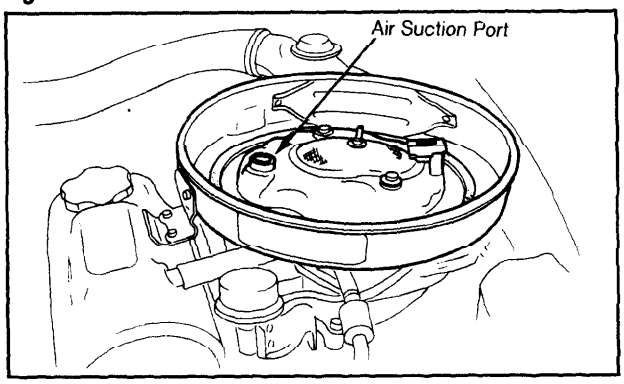
2) Start engine and run at idle speed. Check for bubbling noise from air suction port. *See Fig. 2.* If bubbling noise is not heard, proceed to step **5).** If bubbling noise is heard, disconnect hose from control switch at air suction cut-off diaphragm.

3) Bubbling noise should stop. If bubbling noise is still heard, replace air suction cut-off diaphragm and retest. If bubbling noise stops, check for voltage at control switch solenoid valve (Yellow/Black terminal).

4) If there is voltage, replace speed sensor and retest. If no voltage, replace control switch solenoid valve and retest.

5) Place shift lever in second position (selector lever in 2 position) and accelerate above 15 MPH. Quickly release throttle and check for bubbling noise. If bubbling noise is heard, test is complete.

Fig. 2: Air Suction Port Location



Check for bubbling noise.

6) If bubbling noise is not heard, disconnect hose from air suction cut-off diaphragm valve and connect vacuum gauge to hose. Again accelerate above 15 MPH and check for vacuum.

7) If there is no vacuum, proceed to step **8).** If vacuum is present check air suction line from air cleaner to exhaust manifold through air suction valve for leaks or disconnected hose. If suction line is okay, replace air suction valve and retest.

8) Remove cover from emission control box on Accord models or box #1 on Civic and Prelude models. Disconnect hose from control switch and check for vacuum during deceleration below 15 MPH. If there is vacuum replace control switch and retest.

9) If there is no vacuum, check for voltage at control switch solenoid valve (Yellow/Black terminal). If voltage is present, check vacuum line to intake manifold for leaks, blockage or disconnected hose. If okay, replace control switch solenoid valve and retest.

10) If no voltage is present, check wiring and fuse. If okay, replace speed sensor and retest.