

PEUGEOT DECELERATION SYSTEM

505

OPERATION

DESCRIPTION

The system is used to reduce emission levels during deceleration. The deceleration valve is activated by intake manifold vacuum and positions the throttle flap and advances the timing to prevent an overly rich mixture. The system is composed of a deceleration valve (Solex), a deceleration vacuum unit, a vacuum advance unit, and 3 connecting hoses.

The deceleration valve contains 3 ports, a check ball, a pushrod, an adjustable vacuum diaphragm, a barometric compensating diaphragm, and 2 atmospheric ports. The deceleration vacuum unit is an adjustable diaphragm with linkage to the carburetor throttle flap.

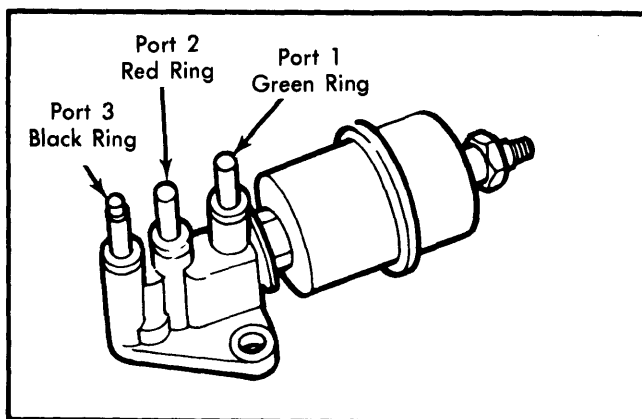


Fig. 1 Deceleration Valve

During normal engine operation, intake manifold vacuum is applied at port 2 of the deceleration valve. Vacuum passes to the deceleration vacuum unit which pulls a link, opening the throttle flap to the accelerated idle position. If the throttle flap is already open past the accelerated idle position, the slotted link has no effect on engine operation.

When the throttle suddenly closes, maximum intake manifold vacuum is present at port 1 of the deceleration valve. The vacuum diaphragm contracts causing the barometric compensating diaphragm to contract which opens the two atmospheric ports. As the vacuum diaphragm contracts, it also moves the pushrod which unseats the check ball and allows manifold vacuum from port 1 to pass through port 2 and port 3. This holds open the throttle flap and advances the spark timing. See Fig. 2.

As manifold vacuum decreases, the diaphragm expands, allowing the check ball to seat and close off vacuum to port 2 and port 3. At the same time, the barometric compensating diaphragm expands and closes the 2 atmospheric ports. The vacuum holding the throttle flap and advanced timing is bled off through the bleed-off port above the throttle flap. The throttle flap closes gradually due to the restricted opening of port 3. Timing returns to normal.

TESTING

1) Connect tachometer, warm engine to normal operating temperature, and adjust idle speed to 900-950 RPM. Accelerate engine to 3000 RPM and release throttle. Speed should drop to 1450-1550 RPM, pause for a few seconds, then return to idle. If so, system is adjusted correctly.

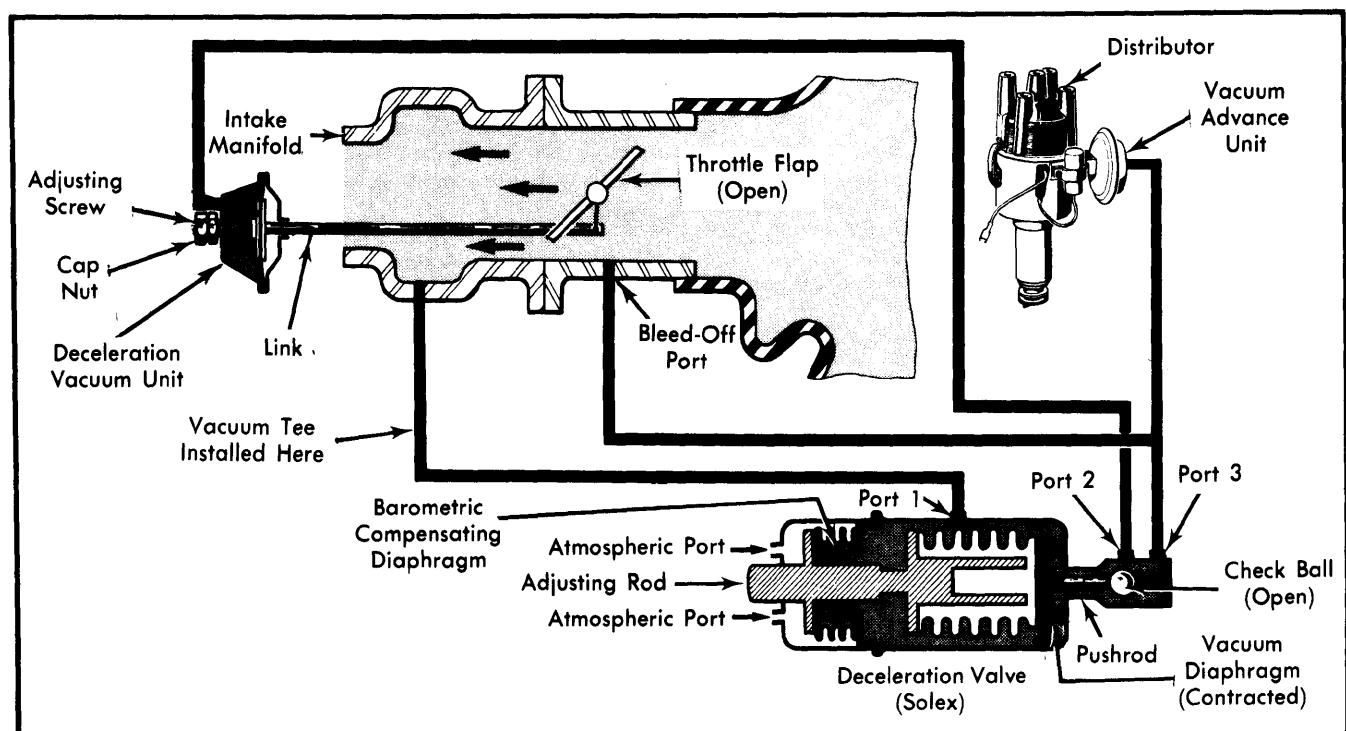


Fig. 2 505 Deceleration Control System During Deceleration

PEUGEOT DECELERATION SYSTEM (Cont.)

2) If engine speed remains high for more than a few seconds or does not return to idle, disconnect vacuum hose from deceleration vacuum unit. If RPM is still high, check for binding linkage from deceleration vacuum unit or accelerator pedal. Adjust deceleration vacuum unit or carburetor if necessary.

3) If engine speed returns to idle with hose off, check vacuum hose routing and condition of hoses. Disconnect green ringed hose from vacuum tee. Disconnect red ringed hose from deceleration valve and connect it to vacuum tee where green ringed hose was removed. See Fig. 4. If linkage between deceleration vacuum unit and throttle flap does not move, replace vacuum unit. If linkage moves, adjust deceleration valve. If adjustment does not correct problem, replace valve.

ADJUSTMENT

Deceleration Vacuum Unit – 1) Connect tachometer, warm engine to normal operating temperature, and adjust idle to 900-950 RPM. Stop engine.

2) Disconnect green ringed hose from vacuum tee. Disconnect red ringed hose from deceleration valve and connect to vacuum tee where green ringed hose was removed. Remove vacuum unit cap nut and gasket. Start engine. Turn adjusting screw with 3 mm Allen wrench to obtain idle speed of 1450-1550 RPM.

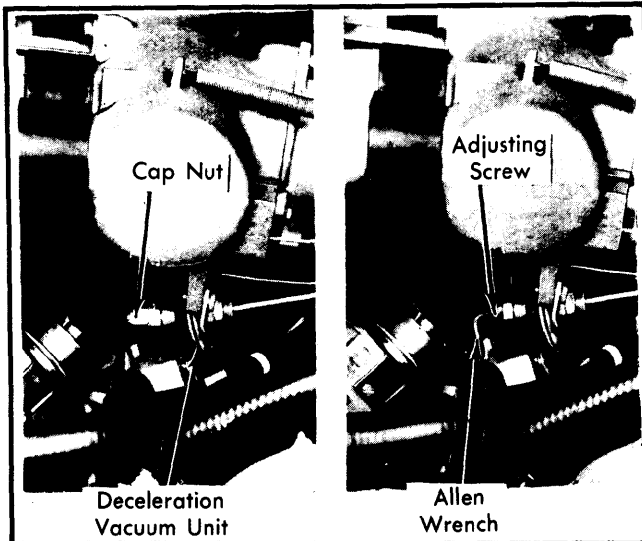


Fig. 3 505 Deceleration Vacuum Unit Adjustment

3) Stop engine and reconnect hoses. Install vacuum unit cap nut and gasket. Retest deceleration system.

Deceleration Valve – 1) If deceleration system is not operating properly, adjust valve. Hold body of deceleration valve firmly and loosen lock nut on adjusting rod.

CAUTION – Do not force adjusting rod on deceleration valve or internal diaphragm will be damaged.

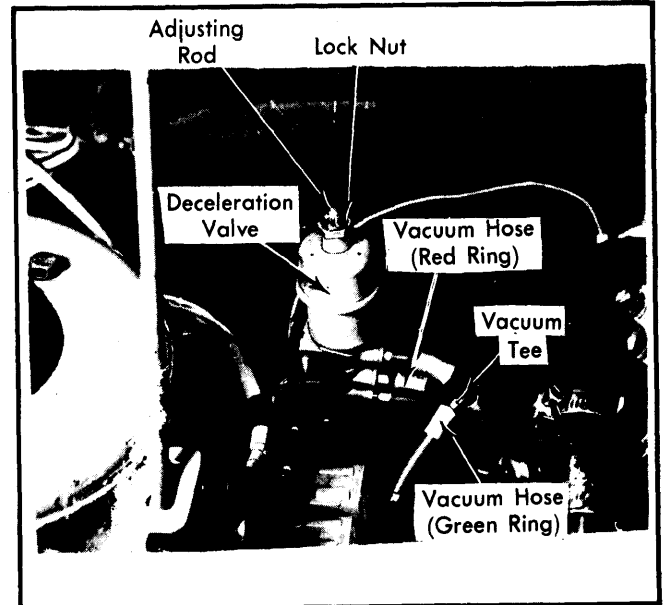


Fig. 4 505 Deceleration Valve Adjustment

2) Start engine. Turn adjusting rod clockwise until speed rises to 1450-1550 RPM. Accelerate engine several times and ensure that speed returns to 1450-1550 RPM. Accelerate engine to 3000 RPM, release throttle and allow speed to return to 1450-1550 RPM. Turn adjusting rod counterclockwise until idle speed returns to 900-950 RPM. Turn adjusting rod 1/2 turn more counterclockwise. Hold body of deceleration valve firmly and tighten lock nut.

3) Accelerate engine several times and recheck idle speed. Speed should pause a few seconds at 1450-1550 RPM, then return to idle.

4) If engine speed does not pause or return to idle, repeat adjustment procedure. If correct results are not obtained, replace deceleration valve and readjust.