

1980 Exhaust Emission Systems

TOYOTA THROTTLE POSITIONER SYSTEM

Celica
Corolla
Corona
Pickup (Exc. Federal Auto. Trans.)

DESCRIPTION

The throttle positioner system controls exhaust emissions during deceleration by holding the throttle plate at an above-idle position during off-throttle operation. This prevents the fuel mixture from being starved of air and helps control HC and CO emissions. The controlling unit is a throttle positioner diaphragm which is vacuum operated.

OPERATION

COROLLA

The throttle positioner system is vacuum controlled. When the throttle is open and vacuum at the TP port is low, the positioner moves to the set position. When the throttle is released, as during deceleration, the positioner keeps it from closing completely until vacuum bleeds through the VTV. The high vacuum present at the TP port will then pull the positioner back and allow the throttle to close completely.

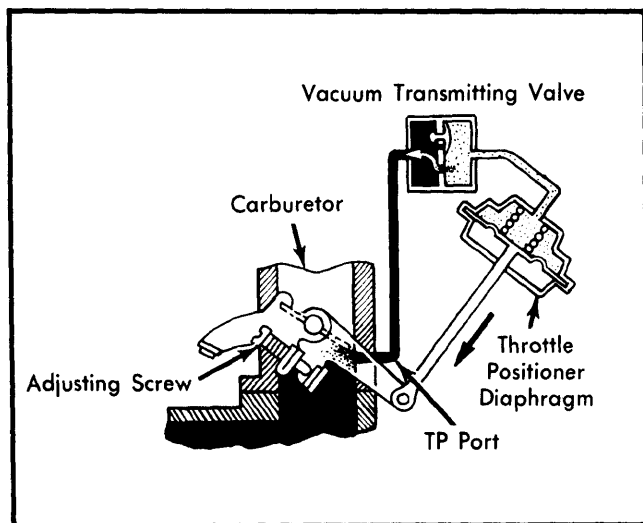


Fig. 1 Corolla Throttle Positioner System

CELICA, CORONA & PICKUP

The system used on these models is speed controlled. A vacuum switching valve responds to speed determined by the speed sensor and computer. The switching valve then allows or cuts off vacuum to the throttle positioner diaphragm. When speed is above a certain point (approximately 7 MPH) and throttle is suddenly closed for deceleration, the throttle positioner holds throttle plate at a slightly open position. When vehicle decelerates below this speed, vacuum is cut off and throttle plate returns to normal idle position.

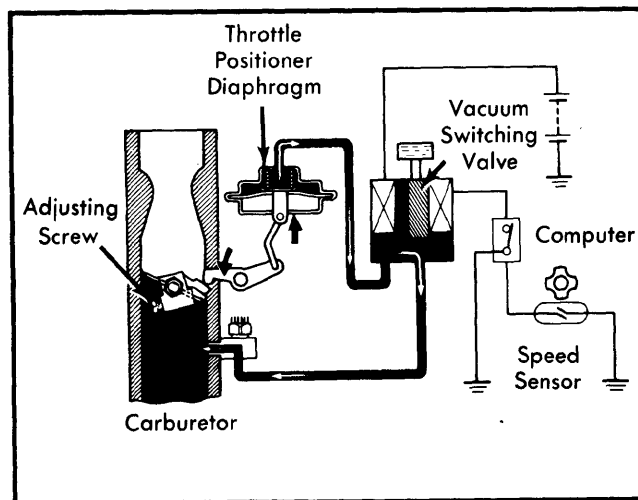


Fig. 2 Celica, Corona and Pickup Throttle Positioner System

TESTING

THROTTLE POSITIONER

1) Warm engine to normal operating temperature. Check and adjust idle speed if required.

NOTE — Turn off air conditioning while adjusting throttle positioner.

2) Allow engine to idle and note that throttle positioner diaphragm releases throttle blade.

3) On Corolla models, disconnect vacuum hose from throttle positioner diaphragm. Throttle positioner should now be set.

4) On Celica, Corona and Pickup models, connect vacuum hose going to throttle positioner directly to intake manifold vacuum. Throttle positioner should now be activated.

5) On all models, with throttle positioner activated, check engine speed. Engine speed should be as specified in "Throttle Positioner Set Speed" table.

6) If speed is not as specified, correct by turning the throttle positioner adjusting screw. Reconnect vacuum hose and see that engine returns to idle (within 1-3 seconds on Corolla models).

Throttle Positioner Set Speed

Application	RPM
Corolla	
Federal Man. Trans.	1600
Federal Auto. Trans.	1300
Calif.	1400
Celica, Corona and Pickup	1050

TOYOTA THROTTLE POSITIONER SYSTEM (Cont.)

VACUUM TRANSMITTING VALVE

Blow air through each side of valve. Air should pass freely from side B to A, but should pass with difficulty from side A to side B.

SPEED SENSOR

Connect a vacuum gauge to the hose between TP and VSV, using a Tee fitting. Place the gauge in the passenger compartment and road test the vehicle. Vacuum gauge should indicate zero below 7 MPH, and manifold vacuum above 16 MPH.

VACUUM SWITCHING VALVE (VSV)

Connect battery to VSV terminals as shown. Blow into lower port and see that air flows from top port. With battery disconnected, air should flow from filter on bottom of valve. Use an ohmmeter to measure resistance between terminals where battery was connected. Resistance should be 18-23 ohms. No continuity should exist between positive terminal and body of valve.

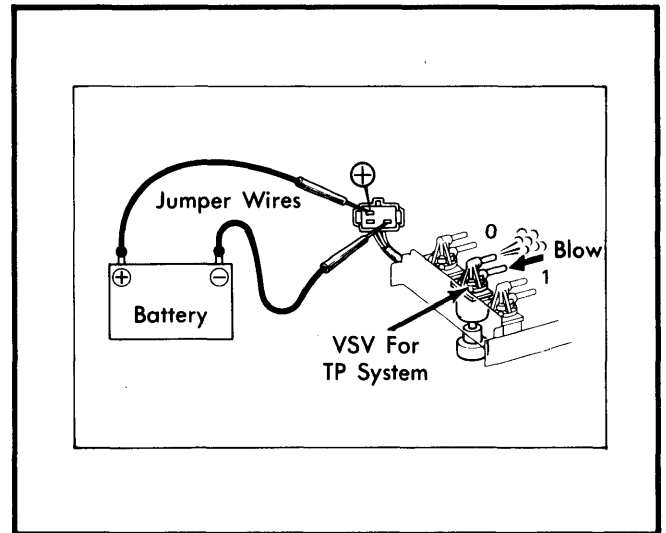


Fig. 3 Vacuum Switching Valve Connections
Celica, Corona and Pickup