

MINIMUM AIR, THROTTLE POSITION SENSOR AND ISC MOTOR ADJUSTMENTS

1. Enter diagnostic mode and record all trouble codes displayed (numbers displayed between the time "1.8.8" is displayed and ".7.0" is displayed). If no codes are displayed, proceed to step 2. If codes are displayed, refer to the heading "Diagnosis Procedure" in Section 8D1. When this diagnosis is completed, proceed with step 2.
2. While in the diagnostic mode and with ".7.0" displayed, perform the switch tests as described in Section 8D1. Refer to the appropriate diagnosis chart for codes which do not pass.
3. Remove the air cleaner, start the engine, and warm the engine up to normal operating temperature (parameter .0.4 greater than 85°C). Turn A/C off. Check engine timing using fixed spark mode as described in Section 8D1. Adjust to specification if needed (see Section 6D6 for procedure).
4. Turn off all electric accessories. Place steering wheel in its center position. Place the transmission in Park.
5. Retract the ISC motor plunger using the following procedure.
 - a. Unlock ISC motor connector but do not disconnect it from the motor.
 - b. Open the throttle and hold at approximately 1500 RPM. With the same hand close the throttle switch by depressing the ISC plunger.
 - c. When the ISC plunger is fully retracted, continue to hold the throttle open and the throttle switch closed while disconnecting the ISC motor connector with the other hand.

NOTICE: Do not power the ISC motor in the fully retracted position for more than 4 seconds or ECM damage may occur.

- d. After the connector is removed release the throttle switch and return the throttle to idle.
6. Under these conditions, the ISC plunger should not be touching the throttle lever. If contact is noted, adjust the ISC plunger (turn in) with pliers or suitable available special tool so that it is not touching the throttle lever.
7. Enter diagnostics and depress the "outside temp." button to turn the "A/C Clutch" status light off. Display engine data parameter .1.1 and observe "engine speed" at minimum air. If the vehicle has under 500 miles and the displayed "engine speed" is "30" to "50" then proceed to step 9. If the vehicle has over 500 miles and the displayed value is "40" to "50" proceed to step 9.
8. If the "engine speed" value does not fall within the above limits, then connect a tachometer to the engine and adjust the throttle stop screw to obtain 450 RPM. If the engine speed cannot be corrected, check that the throttle is not held off the minimum stop screw because of linkage binding or interference with the ISC motor plunger.
9. With the vehicle at ignition on (engine off), enter diagnostics and display engine data parameter .0.1. Open the throttle and let it snap fully shut against the throttle stop screw. If the displayed "throttle angle" value is "0". proceed to step 15.

10. If the "throttle angle" value is not "0", disconnect the TPS connector and measure the voltage between terminals B and C of the ECM side of the TPS connector, **Figure 6D3-8**.
11. Reconnect TPS then connect a digital voltmeter to the TPS harness test point as follows: (see **Figure 6D3-7**)
 - a. Ignition on, engine off.
 - b. (+) lead to the TPS harness test point which connects to pin A (dark blue wire).
 - c. (-) lead to the TPS harness test point which connects to pin B (black wire).
 - d. Set the voltmeter on the 2 volt DC scale.
12. With the throttle fully shut against the throttle stop screw, check the voltmeter reading. If the TPS voltage is within .05 volts of the value shown in **Figure 6D3-8**, proceed to step 15.
13. If the TPS voltage does not fall within the above specification, loosen the TPS attachment screws just enough to permit rotation of the sensor. With the throttle fully shut against the throttle stop screw, position the TPS so that the voltmeter reads as shown in **Figure 6D3-8**.
14. Tighten the TPS mounting screws with the sensor in this position. Recheck the voltmeter reading to make sure that the adjustment remained within .05 volts of the TPS setting in step 13.

NOTICE: Do not use excessive force to adjust the TPS or damage may occur.

15. With the ISC motor fully retracted and the throttle fully shut against the throttle stop screw, turn the ISC motor plunger adjustment screw to obtain a 0.060 inch (1.50mm) gap between ISC motor plunger and the throttle lever.
16. Disconnect all test equipment and reconnect all connections. Turn ignition off for at least 10 seconds. Start engine and check the ISC motor for proper operation.
17. The above procedure may have turned on the check engine light and/or may have set a trouble code. After the system is restored to its normal operation, the check engine light will go out but the trouble code will remain as an "intermittent" problem. Enter diagnostics, clear the stored codes, and turn the ignition off for at least 10 seconds.

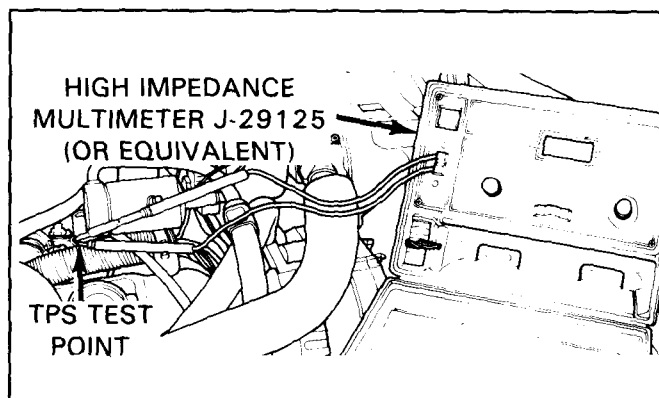


Figure 6D3-7 TPS Test Point