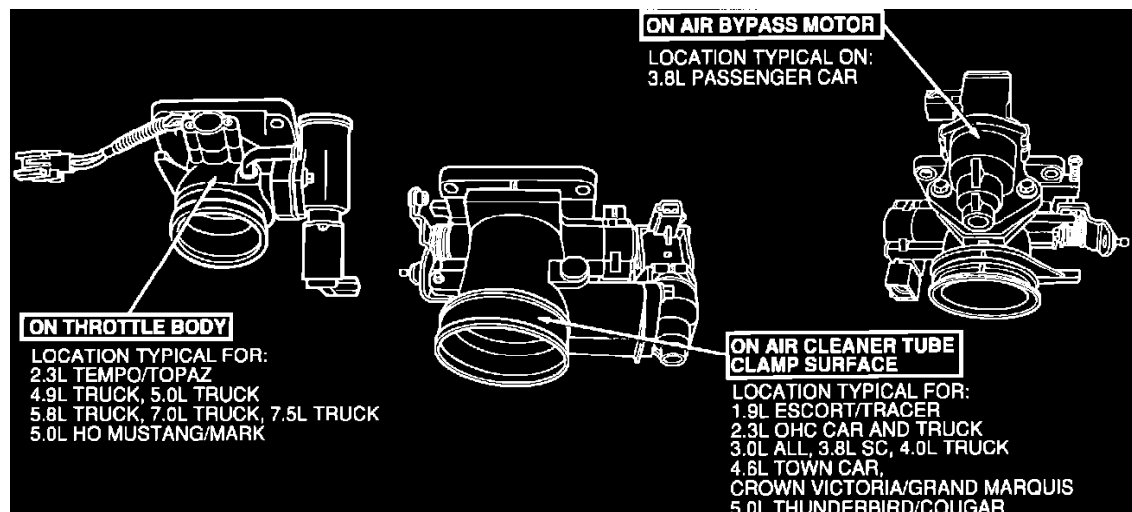


Idle Speed: Adjustments

NOTE: The curb and fast idle speeds are controlled by the EEC-IV processor and the Idle Air Bypass Valve assembly. The Idle Air Bypass Valve assembly is not adjustable. A large increase or decrease in closed plate airflow from the calibrated level will not allow this device to control the speed. To reflect the expanded application of the Self-Test idle speed options, the idle speed setting procedure has been revised considerably.



Throttle Body Description

As part of the sludge tolerant design, the throttle body incorporates an orifice in the throttle plate to control idle airflow. Throttle bodies with sludge tolerant design are identified with a Yellow/Black decal, warning that the throttle plate stop screw must not be adjusted counterclockwise (backed off). This will not reduce the engine speed but may cause the throttle plate to stick in the bore. Backing out the screw may be required if the throttle body has been previously serviced (a plug in the throttle plate orifice may be present), or the plate stop screw tampered with (TPS Self-Test output out of range). The decal also warns that the throttle body must NOT be cleaned inside the bore, as this cleaning will impair the sensitive coating. The sludge accumulation will not affect the idle air flow. The cleaning procedure for the Idle Air Bypass Valve still applies.

REMEMBER

A change in idle airflow can occur not only at the throttle body but other areas as well. You should enter the idle speed procedure only after other possible causes in the following areas are eliminated.

- Contamination within the idle speed control device
- Lack of fuel system control (excessively rich or lean)
- Throttle sticking or binding
- Engine not reaching operating temperature
- Incorrect ignition timing
- Incorrect or clogged PCV system
- Vacuum leaks (intake manifold, vacuum hoses, vacuum reservoirs, power brake booster etc).

VERIFY

- Transmission is in PARK (A/T), or NEUTRAL (M/T)
- Parking brake is applied (automatic brake release disconnected where applicable)
- Wheels blocked
- Engine at operating temperature
- Proper fuel pressure and no exhaust smoke
- Correct and clean PCV system
- Heater, A/C, and other accessories OFF
- Ignition timing is set to specification
- EEC-IV diagnostics have been performed and vehicle malfunction indicated service output codes have been resolved.

PROCEDURE

STEP 1

With the engine OFF, connect a tachometer according to manufacturers instructions. Disconnect the negative (-) terminal of the battery for 5 minutes, then reconnect it.

STEP 2

START the engine and allow the idle to stabilize for two minutes. Goose the accelerator, and let the engine return to idle. Lightly depress and release the accelerator, then let the engine idle.

STEP 3

If the engine does not idle properly, proceed with this procedure.

NOTE: In some cases, even if the idle speed is OK, proceed with this procedure if the customer's complaint persists (idle speed control duty cycle may be out of range).

STEP 4

Turn the engine OFF, and install a .025" feeler gauge between plate stop screw and the throttle lever.

STEP 5

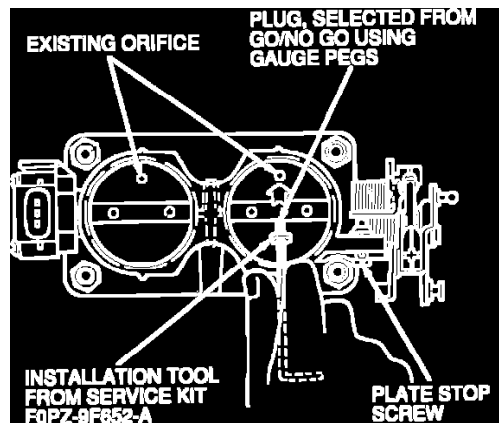
Start engine and run at 2500 rpm for 30 seconds, then let idle.

STEP 6

Place the transmission in PARK (A/T), or NEUTRAL (M/T).

STEP 7

Using a tachometer, verify idle speed is (A/T) 675 +/- 50 rpm.



Throttle Body Assembly

NOTE: A plug in the throttle body orifice will decrease idle rpm. Where as an orifice without a plug will increase idle rpm. Orifice plugs and installation tools are available in service kit #FOPZ-9F652-A.

RPM TOO LOW

NOTE: Before proceeding with this procedure, shut the engine OFF, wait ten seconds, then RE-START the engine. This eliminates the possibility of entering part throttle mode.

- a. DO NOT clean the throttle body, check for the plate orifice plug.
 - If there is no plug, turn the screw clockwise to the desired rpm.
 - If there is a plug from previous service, remove the plug, then adjust the screw in either direction as required. Screw must be in contact with the lever pad after adjustment.

RPM TOO HIGH

- a. Turn OFF the engine.
- b. Disconnect air cleaner hose.
- c. Temporarily block the throttle plate orifice with tape. If the orifice already has a plug from previous service, proceed to Step (e).
- d. RESTART the engine, and check idle speed, using a tachometer.

NOTE: On vehicles with Mass Air Flow Sensors, reconnect the air intake duct hose before checking idle rpm. If the engine stalls, crack open the plate stop screw, but DO NOT over adjust.
- e. If rpm continues to be fast, RUN Key ON Engine OFF (KOEO) Self-Test.
- f. If rpm drops to the the value in Step 7 or lower, or the engine stalls, turn the engine OFF, disconnect the air cleaner hose, and remove tape from throttle plate.
- g. Install the proper color coded orifice plug, according to the throttle plate orifice size.
- h. Reconnect the air cleaner hose, and START the engine. Check the idle rpm using a tachometer. Turn the plate stop screw clockwise to the nominal rpm +/- 25 rpm shown in Step 7.

STEP 8

Shut the engine OFF, then remove the feeler gauge between between the plate stop screw and the throttle lever. Disconnect the battery for at least ten minutes, then reconnect it.

STEP 9

RUN the Key ON Engine OFF (KOEO) Self-Test for proper TPS code output.

STEP 10

START the engine, and allow the idle to stabilize for two minutes. Goose the accelerator, and let the engine return to idle. Lightly depress and release the accelerator, then let engine idle. If idle problem still exists, check for other possible causes.

STEP 11

For Automatic Overdrive (AOD) transmission equipped vehicle, check and adjust (if necessary) the throttle valve pressure.

THROTTLE BODY ORIFICE PLUG INSTALLATION

1. Remove air inlet tube(s) from throttle body.
2. Select the proper color plug by using the Go/No-Go gauge pegs, included with the service kit.
3. Starting with the largest diameter gauge peg, attempt to insert it through the throttle plate orifice.
4. If gauge peg goes through the orifice, use the corresponding colored plug. If gauge peg does not go through, proceed with the next smaller gauge peg for Go/No-Go Test.
NOTE: It is important that the largest Go/No-Go combination is used in determining the proper plug size.
5. If the smallest gauge peg does not go through the orifice, use the reamer bit and handle, included with the service kit, to enlarge the plate orifice. Wipe bearing grease on both sides of the plate orifice and on the reamer bit to hold the brass chips. After reaming, wipe plate clean, then return to Step 3 to determine the proper plug size.
6. Using the installation tool from the service kit, push the plug into the orifice until it bottoms out at the throttle plate.
7. Open and snap closed the throttle several times to verify proper plug retention.
8. Reconnect the air inlet tube(s).
9. Reset idle rpm per engine requirement, using the throttle plate stop screw.