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Mass Air Flow Sensor Installation Tips

Application: Vehicles equipped with vane or mass air flow sensors.

Problem: Identification and installation problems.

QUESTIONS, ANSWERS, TIPS & HINTS:

Q: What function does the MAF/VANE AIRFLOW sensor perform?

A: The airflow sensor measures the amount of air flowing into the engine. This information is used by the engine computer to calculate fuel delivery.

Q: How does a malfunctioning MAF/VANE AIRFLOW sensor affect vehicle operation?

A: Hesitation, stalling, poor fuel economy or poor engine performance.

Q: How can I determine if the sensor is bad?

A: Start the engine and tap lightly on the unit. If tapping causes an engine malfunction or intermittent operation the unit is faulty and must be replaced. Visually inspect a MAF for damage.

Q: What goes bad in VANE-type units?

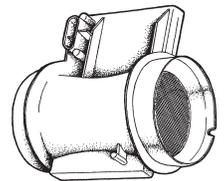
A: Worn vane assembly, cracked housing, or cracked printed circuit board. Inspect the vane door for binding. If possible, measure electrical resistance as vane is operated manually – the resistance should change smoothly.

Q: What goes bad in MAF sensors?

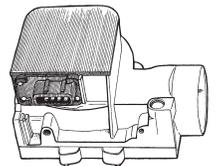
A: Cracked circuit boards, burned sensing element, poor solder joints, defective conformal-coat, or loose printed circuit board components.

Q: What should be done to protect the replacement unit?

A: Check for related trouble codes stored in the engine computer, correct as necessary. Inspect the wiring harness and connectors for damage. Check for proper voltage and ground. Vehicles with external MAF/VANE AIRFLOW relays MUST be checked for proper operation. Inspect inlet hose ducts for looseness and cracks. Check for air way obstructions and replace air filter if necessary. Be sure outlet hose duct is not loose or cracked. Problems here can allow unmetered air to enter engine intake resulting in poor engine performance. Finally, be sure to follow supplied installation instructions. Refer to your vehicle service manual for other installation procedures specific to your vehicle.



Typical MAF



Typical VANE



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