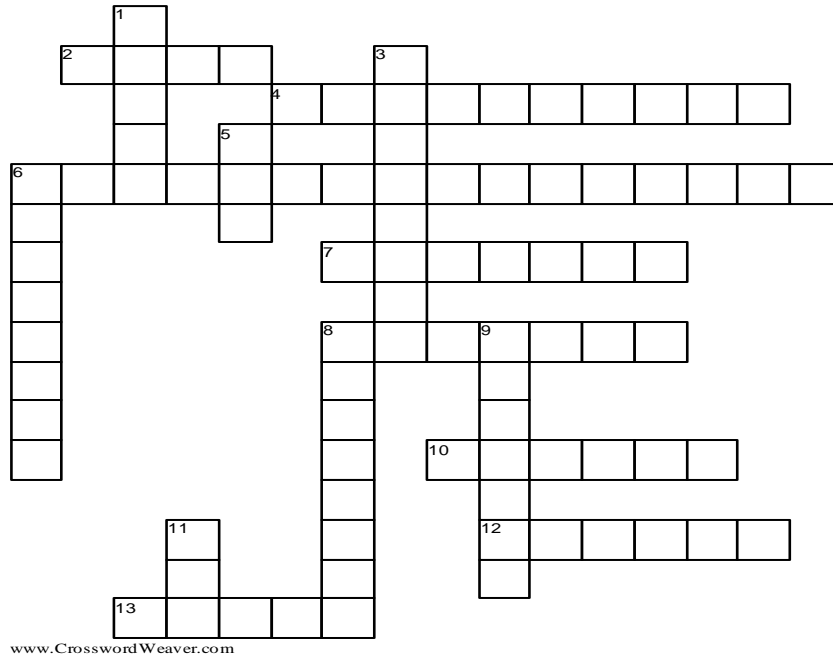


Advanced Engine Performance Diagnosis 8th Edition

Chapter 17

MAP and MAF Sensors



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ACROSS

- 2 _____ air flow sensor: A sensor that measures the amount of air entering the engine to determine the appropriate amount of fuel to inject, critical for maintaining the proper air-fuel ratio.
- 4 _____ manifold absolute pressure sensor: A sensor that combines both barometric pressure and manifold absolute pressure measurement in one device, used to assess air pressure variations within the engine.
- 6 A property of certain materials that change resistance in response to pressure, often used in pressure sensors like the MAP sensor to detect pressure changes in the intake manifold.
- 7 Some MAF sensors use a ____-____ circuit to keep the sensing wire clean of dust and dirt.
- 8 _____ vacuum and is measured in inches of _____.
- 10 A lower-than-atmospheric pressure condition created in the intake manifold during engine operation, measured by the MAP sensor to assist in engine control functions such as fuel delivery and ignition timing.
- 12 _____ manifold pressure changes with changing throttle positions.
- 13 _____ density: A method of calculating the air entering the engine based on intake manifold pressure (MAP), engine speed, and air temperature, typically used in systems that do not have a mass air flow sensor.

DOWN

- 1 _____ air: Air that enters the intake system without being measured by the mass air flow or manifold absolute pressure sensors, often causing poor engine performance and inaccurate fuel calculations.
- 3 Barometric _____ sensor: A sensor that measures the atmospheric pressure, often used by the PCM to make adjustments for altitude changes, influencing fuel delivery and ignition timing.
- 5 The ____ film sensor uses a temperature-sensing resistor (thermistor) to measure the temperature of the incoming air.
- 6 _____ differential: The difference in pressure between two points, such as atmospheric pressure and the pressure within the intake manifold, which is essential for calculating engine load and air flow.
- 8 _____ absolute pressure sensor: A sensor that measures the pressure within the intake manifold to help the engine control module (ECM) determine engine load, fuel delivery, and ignition timing.
- 9 The _____ disc MAP sensor is used by Chrysler, and it converts manifold pressure into a capacitance discharge.
- 11 _____ test: A diagnostic technique where a technician gently taps a sensor to check for loose connections or faulty components, often used to diagnose MAP or MAF sensor issues.