

Automotive Technology 7th Edition
Chapter 72: MAP and MAF Sensors
Short Answer Quiz

Name:

Date:

1. Explain how the MAP sensor determines the load on an engine and its significance in fuel delivery for returnless-type fuel injection systems.
2. Describe the relationship between barometric pressure, engine vacuum, and MAP sensor voltage, and how these factors are used to calculate air density.
3. What is the function of a burn-off circuit in some MAF sensors, and when is it typically activated?
4. Discuss the concept of a "high-authority sensor" and provide examples of when the MAF sensor would be considered as such.
5. How does the PCM use the MAF sensor data in conjunction with the TP sensor to maintain proper fuel delivery, especially if the MAF sensor fails?

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6. What is "false air" in the context of MAF sensors, and why is it significant for engine performance?

7. Explain the tap test for diagnosing a MAF sensor and what a stumble or stall during this test indicates.

8. List and describe the diagnostic trouble codes related to the MAF sensor and what each indicates about the sensor's condition.

9. How does the MAP sensor assist in diagnosing the EGR system, and what specific change in the MAP sensor signal is expected when the EGR valve is activated?

10. What are the implications of a MAP sensor's signal not reacting with a specified drop in manifold vacuum during EGR system operation, and what diagnostic trouble code might this trigger?