

**Automotive Technology 7<sup>th</sup> Edition**  
**Chapter 75: Fuel-Injection Parts and Operation**  
**Matching Quiz**

Name: \_\_\_\_\_ Date: \_\_\_\_\_

**Matching: Choose the item in column 2 that best matches each item in column 1.**

- |   |  |           |
|---|--|-----------|
| 1. Speed-Density Method                     | A. A returnless technology where a pressure regulator is mounted at the entry to the fuel rail, admitting the precise quantity of fuel to be used by the engine.     | 1. _____  |
| 2. Electronic Returnless Fuel System (ERFS) | B. Operation used to modify the base injector pulse width based on feedback from the oxygen sensor.  | 2. _____  |
| 3. Clear Flood Mode                         | C. A direct-current motor that moves in fixed increments and is often used as an Idle Air Control (IAC) valve to control engine idle speed.                          | 3. _____  |
| 4. Stepper Motor                            | D. Calculates the required amount of fuel using sensors like the MAP and TP instead of an air quantity sensor.   | 4. _____  |
| 5. Demand Delivery System (DDS)             | E. Uses a pressure transducer to sense fuel rail pressure and a controller to modulate pump speed, eliminating the need for a mechanical regulating valve.           | 5. _____  |
| 6. Vacuum-Biased Fuel-Pressure Regulator    | F. Controls the idle speed on newer vehicles by directly managing the throttle valve, eliminating the need for a mechanical cable.                                   | 6. _____  |
| 7. Rectangular Fuel Rail                    | G. A pipe delivering fuel to the injectors, shaped to allow its sides to move in and out to dampen pressure pulses.  | 7. _____  |
| 8. Mass Airflow Method                      | H. An operating state where if the accelerator is depressed more than 80% with a low engine speed, the PCM will greatly reduce or shut off the injector pulse width. | 8. _____  |
| 9. Electronic Throttle Control (ETC) System | I. Uses a mass airflow (MAF) sensor to calculate the injection base pulse width.   | 9. _____  |
| 10. Closed-Loop Mode                        | J. A component connected to intake manifold vacuum that ensures a constant pressure drop across the injectors, regardless of engine load.                            | 10. _____ |

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**Answer Key**

**Answer Key:**

1. D
2. E
3. H
4. C
5. A
6. J
7. G
8. I
9. F
10. B