

Automotive Electrical and Engine Performance 9th Edition
Chapter 21 – Fuel Pumps, Lines, and Filters
Quiz A

1. Which of the following is a key characteristic of a gerotor fuel pump?
 - a. It uses a central impeller disk with free-sliding rollers.
 - b. It uses meshing internal and external gear teeth for pressurization.
 - c. It relies on hydrokinetic flow for fuel pressure.
 - d. It contains a single-stage impeller for fuel delivery.

2. What component prevents fuel from being siphoned through the filler neck?
 - a. Check ball tube
 - b. Inertia switch
 - c. Rollover valve
 - d. Pressure vacuum filler cap

3. What is the primary function of a fuel pickup tube's filter sock?
 - a. Reduce fuel vaporization in the tank
 - b. Separate water and sediment from fuel
 - c. Maintain constant pressure in the fuel pump
 - d. Act as a check valve for the fuel line

4. Which material is not recommended for replacing rigid fuel lines in a fuel system?
 - a. Steel tubing
 - b. Nylon tubing
 - c. Copper tubing
 - d. Manufacturer-specified synthetic hoses

5. In a modular fuel sender assembly, what is the role of the jet pump?
- Reduce noise and pulsations in the fuel flow
 - Transfer excess fuel back to the reservoir
 - Adjust fuel pressure within the pump housing
 - Prevent vapor lock during fuel delivery
6. How does a positive displacement pump ensure fuel flow?
- By accelerating fuel particles using impellers
 - By pressurizing fuel via an internal gear mechanism
 - By forcing all fuel entering the pump to leave through the outlet
 - By using a turbine to increase the boiling point of the fuel
7. What is the main advantage of placing a fuel pressure regulator near the fuel tank in returnless systems?
- Minimizes heat transfer from the engine
 - Reduces fuel vapor emissions
 - Ensures higher fuel pressures in the rail
 - Improves durability of the pressure regulator
8. What is the typical fuel pressure range for a multiport fuel injection system?
- 10–15 PSI
 - 20–30 PSI
 - 35–50 PSI
 - 70–90 PSI
9. Why do fuel-pump modules often include spring-loaded components?
- To prevent vapor lock in the fuel system
 - To ensure constant contact with the bottom of the tank
 - To dampen pressure pulses in the pump housing
 - To assist with fitting the module during installation

10. What is the most likely cause of a fuel pressure drop when the engine is turned off?

a. Faulty pulsator

b. Leaking injector

c. Defective fuel pump check valve

d. All of the above

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Correct Answers:

1. b

2. a

3. b

4. c

5. b

6. c

7. a

8. c

9. b

10. d