

**Automotive Electrical and Engine Performance 8th Edition**  
**Chapter 21 – Fuel Pumps, Lines, and Filters**  
**Quiz B**

1. What are the primary components of the fuel delivery system?
  - a. Fuel pump, fuel tank, fuel filter, and fuel lines
  - b. Inlet valve, exhaust valve, spark plug, and piston
  - c. Roller cell pump, gerotor, fuel strainer, and fuel gauge
  - d. Throttle body, MAF sensor, oxygen sensor, and PCM
  
2. Which safety device prevents fuel leaks during a rollover accident?
  - a. Pressure vacuum filler cap
  - b. Rollover valve
  - c. Check ball tube
  - d. Inertia switch
  
3. What type of material is primarily used for modern vehicle fuel lines?
  - a. Aluminum tubing
  - b. Nylon plastic
  - c. Seamless copper tubing
  - d. Steel and nylon plastic
  
4. How do turbine fuel pumps differ from positive displacement pumps?
  - a. They create pressure using an impeller and pulse exchange.
  - b. They are quieter but operate at lower efficiency levels.
  - c. They require external valves for steady fuel flow.
  - d. They operate in a closed-loop system without fuel straining.

5. What is the function of a check valve in an electric fuel pump?
- To regulate fuel pressure to the injectors
  - To prevent fuel backflow when the pump shuts off
  - To manage vapor recovery during fueling
  - To release air pressure during hot starts
6. Technician A claims that fuel filters on returnless systems do not require routine replacement. Technician B claims that return-type systems rely on inline filters. Who is correct?
- Technician A only
  - Technician B only
  - Both Technician A and Technician B
  - Neither Technician A nor Technician B
7. What is the role of a pulsator in a fuel delivery system?
- Reducing pressure pulses to prevent noise and leaks
  - Filtering out debris from the fuel tank
  - Equalizing temperature differences in the fuel tank
  - Protecting the electric motor from overheating
8. Why do modern fuel-pump modules include spring-loaded assemblies?
- To absorb shock during off-road conditions
  - To adjust to the expansion and contraction of plastic fuel tanks
  - To provide compatibility with return-type systems
  - To improve the filtration process of fuel contaminants
9. What is the micron size typically filtered by fuel filters?
- 1 to 5 microns
  - 10 to 20 microns
  - 50 to 70 microns
  - 100 to 200 microns

10. After replacing a fuel pump, a technician finds that fuel pressure is still below specifications. Which of the following is the most likely cause?

- a. A faulty accumulator
- b. A clogged fuel strainer
- c. Incorrect installation of the pump
- d. Excessive pressure in the return line

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**Correct Answers:**

1. a

2. b

3. d

4. c

5. a

6. b

7. c

8. d

9. a

10. b