

Automotive Engines 10th

Quiz 20B

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

1. The delay between acceleration and turbo boost is called _____. 1. _____
 - A) boost
 - B) turbo lag
 - C) waste gate delay
 - D) blowout valve delay

2. The term "volumetric efficiency" refers to the ability of an engine to _____. 2. _____
 - A) create emissions
 - B) create heat
 - C) pull in air
 - D) distribute air evenly

3. What service operation is *most* important on engines equipped with a turbocharger? 3. _____
 - A) Replacing the air filter regularly
 - B) Replacing the fuel filter regularly
 - C) Regular oil changes
 - D) Regular exhaust system maintenance

4. Technician A says that volumetric efficiency is a comparison of the actual volume of air-fuel mixture drawn into the engine to the theoretical minimum volume that can be drawn into the cylinder. Technician B says that a supercharger consumes some engine power as it forces a greater amount of air into the cylinders for more power. Which technician is correct? 4. _____
 - A) Technician A only
 - B) Technician B only
 - C) Both technicians A and B
 - D) Neither technician A nor B

5. Technician A says that a bypass valve is used to control the boost pressure on most factory installed superchargers. Technician B says that an intercooler is used on many turbocharged and some supercharged engines to reduce the temperature of air entering the engine for increased power. Which technician is correct? 5. _____
 - A) Technician A only
 - B) Technician B only
 - C) Both technicians A and B
 - D) Neither technician A nor B

6. Boost pressure is generally measured in _____. 6. _____
 - A) inch Hg
 - B) PSI
 - C) inch H₂O
 - D) inch pounds

7. Two technicians are discussing the term "turbo lag." Technician A says that it refers to the delay between when exhaust leaves the cylinder and when it contacts the turbine blades of the turbocharger. Technician B says the term refers to the delay in boost pressure that occurs when the throttle is first opened. Which technician is correct? 7. _____
- A) Technician A only
 - B) Technician B only
 - C) Both technicians A and B
 - D) Neither technician A nor B
8. Many factory installed superchargers are equipped with a _____ that allows intake air to flow directly into the intake manifold without going through the supercharger. 8. _____
- A) wastegate
 - B) throttle control valve
 - C) bypass valve
 - D) control valve
9. All of these are advantages of supercharging an engine, EXCEPT _____. 9. _____
- A) increases the air-fuel charge density
 - B) allows the engine to run on lower pressures
 - C) pumped air pushes the remaining exhaust from the combustion
 - D) lowers the temperature of the cylinder head, pistons, and valves
10. When air is pumped into the cylinder, the combustion chamber receives an increase of air pressure known as _____ and is measured in pounds per square inch (psi), atmospheres (ATM), or bar. 10. _____
- A) density
 - B) boost
 - C) horsepower
 - D) waste

Answer Key

Testname: ENGINES 10 20B

1. B
Page Ref: 280
2. C
Page Ref: 274
3. C
Page Ref: 280
4. B
Page Ref: 274
5. C
Page Ref: 277; 280
6. B
Page Ref: 275
7. B
Page Ref: 280
8. C
Page Ref: 277
9. B
Page Ref: 275
10. B
Page Ref: 275