Automotive Technology 7th Edition
Chapter 15: Gasoline Engine Operation, Parts, and Specifications
Short Answer Quiz

Name: Date:

1. Explain the distinction between internal and external combustion engines, providing examples of each.

2. Describe the purpose of the "BLOCK" in engine construction and the materials it can be constructed from. Why are close tolerances crucial during its machining?

3. Differentiate between intake and exhaust manifolds based on their operation temperatures and construction materials. Why is the difference in construction material important for their functions?

4. How does the thermostat function in controlling the coolant temperature, and what happens when the thermostat reaches its rating temperature?

5. In a four-stroke cycle engine, list and briefly describe each of the four strokes. How many degrees does the crankshaft rotate for each stroke, and what is the total rotation of the crankshaft for the entire cycle?

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6. If a V-type engine uses two banks or rows of cylinders, how many camshafts would a DOHC V-6 design utilize?

7. Describe the key difference in the Atkinson cycle engine design compared to the Otto cycle in terms of the intake valve operation.

8. What is the significance of the engine's compression ratio, and how might modifications, such as changing the head gasket thickness or increasing the cylinder size, affect this ratio?

9. How is the term "torque" defined in relation to engine operation, and how is it typically expressed in relation to engine speed?

10. How is the eccentric motion of the rotor in a rotary engine, or Wankel engine, characterized in relation to the center of the engine?