Automotive Engine Performance, 5th Edition Chapter 31
Name
SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.
1) List those items that should be checked if a vehicle fails an exhaust test for excessive NOx emissions.
2) List the five exhaust gases and their maximum allowable readings for a fuel-injected vehicle equipped with a catalytic converter.
3) List two causes of a lean exhaust.
4) List two causes of a rich exhaust.

Answer Key

Testname: ENGINEPERF5_SHORT31

1) Items that should be checked if the vehicle fails an exhaust emission test for excessive NOX include: proper operating cooling system, proper flow through the EGR system, correct ignition timing, correct spark plug hot range, properly operating oxygen sensor, and engine operation without vacuum leaks.

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2) The five gases and their maximum allowable readings include:

HC = 30 to 50 PPM or less

CO = 0.3% to 0.5% or less

O2 = 0% to 2%

CO2 = 12% to 15%

NOx = less than 100 PPM at idle and less than 1000 PPM at WOT

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3) Causes of a lean exhaust could include: a vacuum leak, lower-than-normal fuel pressure or volume, or a clogged injector(s).

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4) Causes of a rich exhaust could include: a defective fuel pressure regulator, a leaking injector(s), a stuck open pump valve, or a clogged air intake.

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