

Engine Condition

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

- 1) What does blue exhaust smoke indicate? 1) _____
A) Burning oil B) Excessive fuel
C) Coolant in combustion chamber. D) Insufficient oil
- 2) Which noise is most noticeable at idle? 2) _____
A) Piston slap B) Main-bearing knock
C) Loose valve lifters D) Worn thrust bearings
- 3) Technician A says a low but steady idle vacuum reading indicates a sticking valve. Technician B says a fluctuating vacuum gauge reading indicates incorrect ignition timing. Which technician is correct? 3) _____
A) Technician A only B) Technician B only
C) Both Technicians A and B D) Neither Technician A nor B
- 4) Which of the following is NOT a cause of high exhaust back pressure? 4) _____
A) Restricted catalytic converter B) Restricted exhaust pipe.
C) Restricted muffler D) Vacuum leak
- 5) A cylinder power balance test is performed. Cylinders 1, 2, and 3, all drop 175 RPM when disabled with a scan tool. Cylinder 4 drops 50 RPM when disabled. The following statements are all correct EXCEPT _____ 5) _____
A) This test could also be conducted by grounding the plug wire for each cylinder.
B) There may be a mechanical problem with cylinder 4.
C) Cylinder 4 is much stronger than 1, 2, and 3.
D) Cylinder 4 is much weaker than 1, 2, and 3.
- 6) The following statements are all correct EXCEPT _____ 6) _____
A) Recommended oil pressure is 1 PSI for every 1000 RPM.
B) Oil pressure testing should be done at normal operating temperature.
C) Oil pressure may be tested by removing the oil pressure sending unit and installing a pressure gauge.
D) Oil pressure readings should be made at idle and 2500 RPM.
- 7) Red fluid is found leaking under a vehicle. What is the most likely source? 7) _____
A) Brake fluid B) Engine oil
C) Transmission fluid D) Coolant
- 8) Cranking vacuum should be _____. 8) _____
A) 17 to 21 inches Hg B) 6 to 16 inches Hg
C) Over 25 inches Hg D) 2.5 inches Hg or higher
- 9) Which of the following is LEAST likely to create a rattle sound? 9) _____
A) Broken harmonic balancer B) Loose belt tensioner
C) Loose accessory mounts D) Cracked flex plate

- 10) Technician A says low oil pressure causes engine wear. Technician B says engine wear can cause low oil pressure. Which technician is correct? 10) _____
 A) Technician A only B) Technician B only
 C) Both Technicians A and B D) Neither Technician A nor B
- 11) How many compression strokes should be used during a compression test? 11) _____
 A) Two B) One C) Three D) Four
- 12) A smoothly operating engine depends on _____. 12) _____
 A) Equally compression among cylinders
 B) High compression on most cylinders
 C) Cylinder compression levels above 100 psi (700 kPa) and within 70 psi (500 kPa) of each other
 D) Compression levels below 100 psi (700 kPa) on most cylinders
- 13) Technician A says that removing the plug wire from a spark plug while the engine is running could damage ignition system components. Technician B says that grounding a spark plug wire while the engine is running could damage ignition system components. Which technician is correct? 13) _____
 A) Technician A only B) Technician B only
 C) Both Technicians A and B D) Neither Technician A nor B
- 14) When preparing for a compression test, technician A disables the ignition system. Technician B only removes the spark plug for the cylinder he is testing. Which technician is correct? 14) _____
 A) Technician A only B) Technician B only
 C) Both Technicians A and B D) Neither Technician A nor B
- 15) Which of the following could result in low engine compression? 15) _____
 A) Cylinder head gasket leak B) Damaged valve
 C) Damaged piston or piston ring D) All of these are correct.
- 16) Technician A says that the paper test could detect a burned valve. Technician B says that a grayish white stain could be a coolant leak. Which technician is correct? 16) _____
 A) Technician A only B) Technician B only
 C) Both Technicians A and B D) Neither Technician A nor B
- 17) What does black exhaust smoke indicate? 17) _____
 A) Coolant in combustion chamber B) Burning oil
 C) Excessive fuel D) Insufficient fuel
- 18) Which is NOT a step in the cranking vacuum test? 18) _____
 A) Disable ignition or fuel injection
 B) Block the throttle wide open
 C) Crank the engine while observing the vacuum gauge
 D) Connect the vacuum gauge to a source of manifold vacuum.
- 19) Technician A says that during a power balance test, the cylinder that causes the biggest RPM drop is the weak cylinder. Technician B says that if one spark plug wire is grounded out and the engine speed does not drop, a weak or dead cylinder is indicated. Which technician is correct? 19) _____
 A) Technician A only B) Technician B only
 C) Both Technicians A and B D) Neither Technician A nor B

- 20) Two technicians are discussing oil leaks. Technician A says that an oil leak can be found using a fluorescent dye in the oil with a black light to check for leaks. Technician B says that a white spray powder can be used to locate oil leaks. Which technician is correct? 20) _____
- A) Technician A only
B) Technician B only
C) Both Technicians A and B
D) Neither Technician A nor B
- 21) While performing a cylinder leakage test, technician A says that 20% leakage is acceptable. Technician B says that a cylinder will show too much leakage if the piston is not at TDC on its compression stroke. Which technician is correct? 21) _____
- A) Technician A only
B) Technician B only
C) Both Technicians A and B
D) Neither Technician A nor B
- 22) The low oil pressure warning light usually comes on _____. 22) _____
- A) Whenever oil pressure drops dangerously low (4 to 7 (psi)
B) Whenever an oil change is required
C) Whenever the oil filter bypass valve opens
D) Whenever the oil filter antidrainback valve opens
- 23) Technician A says that if the oil pressure warning light is on, the oil pressure should be checked with a manual gauge . Technician B says that a faulty electrical circuit could cause the oil pressure warning light to come on even when the oil pressure is good. Which technician is correct? 23) _____
- A) Technician A only
B) Technician B only
C) Both Technicians A and B
D) Neither Technician A nor B
- 24) A good reading for a cylinder leakage test would be _____. 24) _____
- A) All cylinders below 20% leakage
B) Within 20% between cylinders
C) All cylinders above 20% leakage
D) All cylinders above 70% leakage and within 7% of each other
- 25) A good engine should produce how much compression during a running (dynamic) compression test? 25) _____
- A) 30-60 PSI
B) 150-200 PSI
C) 100-150 PSI
D) 60-90 PSI