

PRACTICE EXAM 14: ASE T8 PMI SIMULATION

1. During PMI, a technician finds that a commercial vehicle's engine exhibits rough idle with visible vibration. The engine operates smoothly at higher RPMs. The most likely cause is:
 - A. Failed injector or cylinder-specific combustion issue
 - B. Normal diesel engine idle characteristics
 - C. Excessive fuel quality variation
 - D. Driver technique during idle operation

2. The correct procedure for inspecting a commercial vehicle's charge air cooler (CAC) for integrity is to:
 - A. Remove the CAC for internal inspection
 - B. Visual inspection of fins and housing only
 - C. Pressure test the CAC and observe for leaks
 - D. Replace CAC at scheduled intervals

3. A Class 8 tractor's driver reports that the trailer brakes apply intermittently during operation. The most likely cause is:
 - A. Normal trailer brake operation during varying conditions
 - B. Intermittent trailer relay valve fault or electrical connection issue
 - C. Driver technique during brake application
 - D. Tractor brake pedal sensor requiring calibration

4. The correct interpretation of a commercial vehicle's radiator cap that leaks coolant during pressure cycles is:

- A. Normal cap operation during thermal cycling
- B. Excessive system pressure affecting cap performance
- C. Driver technique during coolant addition
- D. Failed cap seal requiring replacement

5. A technician inspecting a tractor's air brake system finds excessive leakage at a fitting connection. The correct action is:

- A. Repair or replace the leaking fitting before return to service
- B. Apply pipe sealant to the fitting
- C. Tighten the fitting beyond specification
- D. Continue service with the leak documented

6. The correct procedure for verifying a commercial vehicle's engine cooling fan shroud is to:

- A. Remove the shroud for internal inspection
- B. Measure shroud dimensions compared to specification
- C. Visual inspection for damage, secure mounting, and proper clearance
- D. Replace the shroud at annual service

7. A Class 8 tractor's engine oil pressure gauge shows pressure below specification during highway operation. The engine runs smoothly with no warning lights. The most likely initial action is:

- A. Continue service and monitor the pressure
- B. Replace the oil pressure sending unit

- C. Add engine oil to increase pressure
- D. Verify reading with independent mechanical gauge

8. The correct interpretation of a commercial vehicle's brake drum with heat discoloration on the friction surface is:

- A. Normal drum appearance during operation
- B. Possible brake drag or dragging shoes requiring investigation
- C. Paint residue from previous service
- D. Normal wear pattern at service interval

9. A driver reports that the vehicle pulls to the right only during braking. Normal tracking is maintained during cruise operation. The most likely cause is:

- A. Brake imbalance at the left wheel during application
- B. Normal braking characteristic at highway speeds
- C. Alignment issue producing apparent pull
- D. Driver technique during brake application

10. The correct procedure for checking a commercial vehicle's battery for condition is to:

- A. Visual inspection of battery case only
- B. Replace battery at scheduled intervals regardless of condition
- C. Load test at half CCA rating for 15 seconds
- D. Measure open-circuit voltage only

11. A technician performing PMI finds that a commercial vehicle's air dryer cartridge appears saturated. The correct action is:

- A. Continue service until complete failure
- B. Apply heat to evaporate accumulated moisture
- C. Monitor the cartridge at next service interval
- D. Replace the cartridge and investigate premature saturation

12. The correct interpretation of a commercial vehicle's transmission fluid that shows dark brown color with burnt odor is:

- A. Transmission overheating or internal wear requiring service
- B. Normal fluid appearance at extended service intervals
- C. Fresh fluid recently installed in the transmission
- D. Fluid additive producing color change

13. A Class 8 tractor's driver reports that the engine produces black smoke during acceleration only. The most likely cause is:

- A. Normal diesel exhaust during acceleration
- B. Fuel pump producing excessive delivery
- C. Insufficient air supply: restriction, turbo issue, or intake leak
- D. Driver technique producing apparent smoke

14. The correct procedure for inspecting a commercial vehicle's rear axle lubricant is to:

- A. Drain and measure lubricant volume compared to specification
- B. Remove the fill plug and verify level reaches the opening

- C. Replace lubricant at scheduled intervals regardless of condition
- D. Add lubricant to the fill opening to maintain level

15. A driver reports that the cab interior air produces an unusual odor during A/C operation. The most likely cause is:

- A. Normal A/C operation during varying conditions
- B. Driver perception error
- C. Refrigerant leak into the cab ventilation
- D. Cabin air filter saturation or evaporator contamination

16. The correct interpretation of a commercial vehicle's tire with uneven wear pattern across the tread is:

- A. Alignment issue, incorrect inflation, or suspension problem
- B. Normal tire wear at service mileage
- C. Driver braking patterns affecting wear
- D. Manufacturer tread pattern variation

17. A technician inspecting a tractor's fifth wheel finds that the locking mechanism produces unusual resistance during operation. The most likely cause is:

- A. Normal fifth wheel operation during coupling
- B. Driver technique during coupling operation
- C. Worn components, contamination, or inadequate lubrication
- D. Kingpin variation from specification

18. The correct procedure for testing a commercial vehicle's brake pedal for proper operation is to:

- A. Apply pedal pressure and verify firm resistance and consistent engagement
- B. Replace pedal components at scheduled intervals
- C. Measure pedal spring force with precision gauge
- D. Visual inspection of pedal mounting only

19. A Class 8 tractor's driver reports that the vehicle experiences reduced power output during sustained operation at high altitude. The most likely cause is:

- A. Engine management system requiring altitude adjustment
- B. Driver technique during high-altitude operation
- C. Normal engine behavior requiring adaptation
- D. Turbocharger issue affecting boost pressure at altitude

20. The correct interpretation of a commercial vehicle's brake chamber that produces audible air leak during brake application is:

- A. Normal chamber operation during application
- B. Failed diaphragm or damaged chamber body
- C. Excessive system pressure during application
- D. Driver technique producing apparent leak

21. A technician inspecting a tractor's serpentine belt finds the belt showing chunks of material missing from the ribs. The correct action is:

- A. Apply belt dressing to restore the surface
- B. Continue service if belt has not failed

- C. Replace the belt before return to service
- D. Adjust belt tension to compensate

22. The correct procedure for verifying a commercial vehicle's trailer coupling security is to:

- A. Pull forward against the trailer to test coupling
- B. Visual inspection of the coupling connection only
- C. Visual verification of jaw engagement behind kingpin and secondary catch
- D. Listen for coupling sounds during hook-up

23. A driver reports that the A/C produces condensation dripping inside the cab during operation. The most likely cause is:

- A. Normal A/C condensation during operation
- B. High-humidity conditions during operation
- C. Refrigerant leak into the ventilation system
- D. Restricted evaporator drain tube

24. The correct interpretation of a commercial vehicle's engine oil on the dipstick showing a milky appearance is:

- A. Normal oil appearance at operating temperature
- B. Coolant contamination from internal engine leak
- C. Extended service interval requiring replacement
- D. Fuel dilution producing color change

25. A technician performing PMI finds that a tractor's steering system produces audible noise during steering input. The most likely cause is:

- A. Low power steering fluid, pump wear, or system air
- B. Normal steering system operation
- C. Driver technique during steering input
- D. Tire scrubbing against road surface

26. The correct procedure for inspecting a commercial vehicle's leaf spring for condition is to:

- A. Remove spring for bench inspection
- B. Measure spring height at specification points
- C. Apply hydraulic pressure to test spring rate
- D. Visual inspection for broken leaves, cracks, and shifted leaves

27. A Class 8 tractor's fuel gauge reads empty when fuel tanks have been recently filled to capacity. The most likely cause is:

- A. Normal fuel gauge variation during operation
- B. Fuel tank sending unit or wiring problem
- C. Driver technique reading the fuel gauge
- D. Fuel gauge calibration error

28. The correct interpretation of a commercial vehicle's windshield with a crack across the driver's line of sight is:

- A. Apply repair compound and continue service
- B. Reposition driver seat to avoid cracked area

- C. Replace the windshield before return to service
- D. Monitor the crack at next service interval

29. A technician inspecting a tractor's wheel finds a lug nut that cannot be torqued to specification. The correct action is:

- A. Apply thread repair compound to the stud
- B. Use a longer lug nut to engage undamaged threads
- C. Continue service if the nut holds the wheel
- D. Replace the damaged stud and lug nut before return to service

30. The correct procedure for verifying a commercial vehicle's ABS system function is to:

- A. Connect a scan tool to check for stored fault codes
- B. Apply maximum brake pressure during road test
- C. Visual inspection of ABS warning lamps only
- D. Measure voltage at each wheel speed sensor

31. A driver reports that the vehicle's headlamps produce dimming only during engine acceleration. The most likely cause is:

- A. Normal headlamp behavior during acceleration
- B. Alternator output deficiency or charging system problem
- C. Driver technique producing apparent dimming
- D. Battery capacity during acceleration

32. The correct interpretation of a commercial vehicle's coolant that shows oil contamination is:

- A. Normal coolant appearance during operation
- B. SCA contamination producing oil appearance
- C. Extended coolant service interval
- D. Internal engine leak requiring investigation

33. A technician performing PMI finds that a tractor's brake lining is below minimum thickness specification. The correct action is:

- A. Replace brake lining before return to service
- B. Continue service with monitoring
- C. Apply brake conditioner to improve friction
- D. Adjust slack adjuster to compensate

34. The correct procedure for checking a commercial vehicle's engine oil level is to:

- A. Check level with engine running at operating temperature
- B. Check level at random intervals during operation
- C. Check level with engine off, vehicle on level ground
- D. Measure oil by volume during drain procedure

35. A Class 8 tractor's driver reports that the engine requires extended cranking in cold weather with white smoke at startup. The most likely cause is:

- A. Normal diesel cold-weather starting
- B. Driver technique during cold startup
- C. Engine control module requiring update

D. Cold-start component problem: heater, fuel, or glow plugs

36. The correct interpretation of a commercial vehicle's fifth wheel grease with metallic particles is:

- A. Normal grease condition at service interval
- B. Component wear requiring investigation and possible service
- C. Contamination from external sources
- D. Grease additive producing particle appearance

37. A technician inspecting a tractor's brake chamber finds a bent pushrod. The correct action is:

- A. Straighten the pushrod with a press
- B. Replace the brake chamber assembly
- C. Continue service if chamber operates
- D. Adjust slack adjuster to compensate

38. The correct procedure for testing a commercial vehicle's horn is to:

- A. Activate horn control and verify audible sound output
- B. Measure voltage at horn terminal during activation
- C. Disconnect horn for bench testing
- D. Replace horn at annual inspection

39. A driver reports that the vehicle has developed vibration at specific highway speeds. The most likely cause is:

- A. Normal vehicle vibration at highway speeds

- B. Driver perception error
- C. Wheel imbalance, damage, or driveshaft problem
- D. Engine mount wear producing vibration

40. The correct interpretation of a commercial vehicle's steering wheel free play of 2.5 inches on a 22-inch wheel is:

- A. Within specification for heavy-duty trucks
- B. Excessive free play requiring steering system service
- C. Normal steering wheel play during operation
- D. Driver technique error during measurement

41. A technician performing PMI finds that a tractor's DEF tank shows low level despite recent filling. The most likely cause is:

- A. Normal DEF consumption during operation
- B. Driver fill error during DEF service
- C. DEF evaporation during parking
- D. DEF system leak or tank damage

42. The correct procedure for inspecting a commercial vehicle's suspension air bags is to:

- A. Visual inspection for cracks, damage, and proper inflation
- B. Remove air bags for bench testing
- C. Measure air bag dimensions compared to specification
- D. Replace air bags at scheduled intervals

43. A Class 8 tractor's engine produces a whining sound that changes pitch with engine load. The most likely cause is:

- A. Normal engine sound during varying loads
- B. Turbocharger bearing wear or intake restriction
- C. Belt slippage under load
- D. Driver perception error

44. The correct interpretation of a commercial vehicle's brake fluid with dark brown color is:

- A. Normal brake fluid color at service interval
- B. Fresh fluid recently installed
- C. Moisture contamination requiring fluid replacement
- D. Specific fluid type used by manufacturer

45. A technician inspecting a tractor's fifth wheel pivot finds excessive play during movement. The correct action is:

- A. Evaluate wear and service or replace pivot components
- B. Apply grease to reduce apparent play
- C. Continue service with monitoring
- D. Adjust fifth wheel position to compensate

46. The correct procedure for verifying a commercial vehicle's turn signal function is to:

- A. Measure voltage at each signal bulb
- B. Disconnect signals for bench testing
- C. Visual inspection of bulbs only

D. Activate signals and verify proper flash rate

47. A driver reports that the engine stalls intermittently at idle with no diagnostic codes stored. The most likely cause is:

- A. Normal diesel engine idle characteristics
- B. Idle control problem, fuel issue, or air leak
- C. Driver technique during idle operation
- D. Engine control module requiring update

48. The correct interpretation of a commercial vehicle's coolant reservoir at the MIN fill line is:

- A. Normal coolant level during operation
- B. Overfilled reservoir at previous service
- C. Coolant loss requiring investigation
- D. Normal coolant consumption at service interval

49. A technician performing PMI finds that a tractor's air compressor pulley shows visible groove wear from belt contact. The correct action is:

- A. Replace the pulley and belt before return to service
- B. Apply pulley surface treatment
- C. Replace only the drive belt
- D. Monitor pulley wear at next interval

50. The correct procedure for inspecting a commercial vehicle's exhaust manifold is to:

- A. Remove manifold for bench inspection
- B. Measure manifold dimensions with precision instrument
- C. Replace manifold at scheduled intervals
- D. Visual inspection for cracks, warping, and secure mounting

PRACTICE EXAM 14: ANSWER KEY AND EXPLANATIONS

1. A — Rough idle with visible vibration that smooths at higher RPMs typically indicates a failed injector or cylinder-specific combustion issue. At idle, each cylinder's contribution to engine smoothness is critical; at higher RPM, the effects of any one cylinder's problem are masked by increased rotational inertia. The investigation identifies the specific cylinder requiring service.
2. C — Charge air cooler integrity verification requires pressure testing the CAC and observing for leaks and pressure retention. This direct test confirms the CAC's ability to contain pressurized boost air without internal or external leaks. Visual inspection alone cannot verify internal integrity; removal and scheduled replacement are not standard PMI procedures.
3. B — Intermittent trailer brake application typically indicates an intermittent trailer relay valve fault or electrical connection issue. The valve's function is intermittent because of internal wear or electrical problems in the control circuit. Investigation identifies the specific cause; driver technique and sensor calibration produce different patterns.
4. D — A radiator cap that leaks coolant during pressure cycles has failed its seal and requires replacement. The cap must maintain a sealed pressure boundary during thermal cycling; leaking indicates the seal has deteriorated. Normal operation, excessive pressure, and user technique do not produce leakage at the cap.
5. A — Excessive leakage at a fitting connection requires repair or replacement of the fitting before the vehicle returns to service. The fitting has failed to maintain its sealed connection. Pipe sealants are not approved for brake system fittings; over-tightening can damage the fitting; continued service with known leakage is prohibited.
6. C — Engine cooling fan shroud inspection is a visual procedure examining for damage, secure mounting, and proper clearance to the fan. The shroud directs airflow through the radiator; damage or improper mounting reduces cooling efficiency. Removal, precision measurement, and scheduled replacement are not standard PMI procedures.
7. D — Oil pressure reading below specification without warning lights requires verification with an independent mechanical gauge. The dash gauge may be inaccurate, and mechanical verification distinguishes between gauge error and actual pressure problems. Continued service, sending unit replacement, and oil addition are inappropriate until actual pressure is confirmed.
8. B — Heat discoloration on a brake drum friction surface typically indicates possible brake drag or dragging shoes requiring investigation. The drum temperature has exceeded normal operating

ranges, producing the thermal color change. Investigation identifies whether the drag is intermittent or continuous, and the specific cause.

9. A — Right pull during braking only, with normal cruise tracking, typically indicates brake imbalance at the left wheel producing reduced braking force on that side. The cruise tracking is normal because no brake torque is being applied; the pull appears only when brakes engage. Investigation focuses on the left front brake system.
10. C — Battery capacity testing uses load testing at half the battery's cold cranking amp (CCA) rating for 15 seconds. At 70°F, the voltage must remain above 9.6 volts for the battery to pass. This test reveals capacity issues that visual inspection and simple voltage measurements cannot detect.
11. D — A saturated air dryer cartridge requires replacement combined with investigation of premature saturation. Possible causes include excessive air demand, increased system leakage, or high ambient humidity. Simply replacing without investigation leads to recurring problems; heat application and monitoring do not address the underlying cause.
12. A — Transmission fluid with dark brown color and burnt odor indicates transmission overheating or internal wear requiring service. The fluid has lost its functional properties and reflects transmission stress beyond normal service. Simple fluid replacement without investigation produces recurring problems; the transmission requires service including internal inspection.
13. C — Black smoke during acceleration indicates insufficient air supply during high-demand conditions: air restriction, turbocharger issues, or intake leaks. The smoke is fuel-rich combustion resulting from inadequate air. Normal exhaust does not show significant smoke during acceleration; fuel pump issues produce different patterns.
14. B — Rear axle lubricant level is checked by removing the fill plug and verifying that the oil level reaches the plug opening. This is the specified method for level verification. Volume measurement during drainage, scheduled replacement, and pre-emptive addition are not standard procedures for level verification.
15. D — Unusual odors during A/C operation typically indicate cabin air filter saturation or evaporator contamination. Accumulated moisture and biological growth in these components produces the characteristic odors. Normal operation does not produce unusual odors; driver perception and refrigerant leaks produce different symptom patterns.
16. A — Uneven tire wear across the tread typically indicates alignment issues, incorrect inflation, or suspension problems producing asymmetric loading. Each wear pattern corresponds to specific conditions: center wear (over-inflation), shoulder wear (under-inflation), one-side wear (alignment), cupping (suspension). Investigation identifies the specific cause.
17. C — Unusual resistance in a fifth wheel locking mechanism typically indicates worn components, contamination, or inadequate lubrication. The mechanism should operate smoothly through its

range; resistance indicates internal problems requiring service. Normal operation, driver technique, and kingpin variation produce different patterns.

18. A — Brake pedal function verification consists of applying pedal pressure and confirming firm resistance and consistent engagement. A healthy brake pedal produces predictable response to pressure; abnormalities indicate system problems. Scheduled replacement, precision spring measurement, and mounting-only inspection are not adequate functional verification.
19. D — Reduced power at high altitude with sustained operation typically indicates a turbocharger issue affecting boost pressure at altitude. Modern engines compensate for altitude, but turbocharger degradation prevents full compensation. ECM adjustment, driver technique, and adaptation are not the primary cause of consistent power deficiency at altitude.
20. B — An audible air leak during brake application typically indicates a failed diaphragm or damaged chamber body. Normal operation should not produce audible leaks during application. The condition requires chamber replacement to restore proper sealing and brake function.
21. C — A serpentine belt with missing material from the ribs requires replacement before the vehicle returns to service. The belt cannot maintain reliable grip on the pulleys, and continued use leads to further belt deterioration and potential failure. Belt dressings, continued service, and tension adjustment do not address the physical belt damage.
22. C — Trailer coupling security is verified by visually confirming jaw engagement behind the kingpin and confirming that the secondary safety catch is engaged. This visual verification is the reliable method. Pulling forward tests the current coupling but doesn't verify correct engagement; coupling-only inspection and sound-based verification are inadequate.
23. D — A/C condensation dripping inside the cab typically indicates a restricted evaporator drain tube. The drain should route condensate outside the vehicle; restriction allows condensate to accumulate and enter the cab. Normal operation doesn't produce cab drips; humidity and refrigerant leaks produce different patterns.
24. B — Milky oil on the dipstick indicates coolant contamination from an internal engine leak — typically head gasket failure, cracked cylinder head, or oil cooler gasket failure. The milky appearance is an oil-water emulsion. The condition requires diagnostic investigation to identify and repair the specific internal leak.
25. A — Audible noise during steering input typically indicates low power steering fluid, pump wear, or air in the system. Each condition produces characteristic sounds under high-demand steering conditions. Investigation identifies the specific cause; normal operation and driver technique produce different patterns.
26. D — Leaf spring inspection is a visual procedure examining for broken leaves, cracks, shifted leaves, and missing or damaged shackles. These visual findings identify the conditions that affect

spring performance and safety. Removal, height measurement alone, and hydraulic testing are not standard PMI procedures.

27. B — A fuel gauge reading empty when tanks are recently filled indicates a fuel tank sending unit or wiring problem preventing accurate signal transmission. The sending unit's mechanism has failed, or the wiring between sending unit and gauge has failed. Simple driver technique and calibration do not produce this specific symptom pattern.
28. C — A windshield with a crack across the driver's line of sight must be replaced before the vehicle returns to service. Driver visibility is safety-critical, and cracks in the direct line of sight compromise vision. Repair compounds, seat repositioning, and monitoring are not appropriate for cracks affecting the driver's view.
29. D — A lug nut that cannot be torqued to specification indicates damaged stud threads requiring replacement of the damaged stud and lug nut before the vehicle returns to service. The fastener must be capable of reliable torque; damaged threads cannot maintain proper retention. Thread repair, longer nuts, and continued service do not address the structural problem.
30. A — ABS system function verification requires connection of a scan tool to check for stored fault codes and system diagnostics. This systematic approach identifies specific faults stored in the ABS module. Maximum brake road tests are dangerous; visual inspection alone is insufficient; individual sensor voltage doesn't assess complete system function.
31. B — Headlamp dimming only during engine acceleration indicates alternator output deficiency or charging system problem. The alternator struggles to maintain voltage during increased engine-driven load demands, and the voltage drop affects headlamps. Normal operation and driver technique do not produce acceleration-specific dimming.
32. D — Oil contamination in coolant indicates an internal engine leak requiring investigation. Common sources include head gasket failure, cracked cylinder head, or oil cooler gasket failure. The contamination must be traced and the source repaired before replacing the coolant, or contamination will recur.
33. A — Brake lining below minimum thickness specification requires replacement before the vehicle returns to service. Below-minimum lining produces reduced braking performance and increased risk of brake failure. Continued service, brake conditioners, and slack adjustment do not address the worn lining.
34. C — Engine oil level is checked with the engine off and the vehicle on level ground. This provides stable conditions that allow accurate oil level reading on the dipstick. Engine-running checks produce dynamic readings that don't reflect actual level; random intervals don't produce accurate readings.
35. D — Extended cranking in cold weather with white smoke typically indicates a cold-start component problem: intake heater malfunction, fuel problems, or glow plug issues (where

equipped). These conditions prevent the combustion chamber from reaching the temperature needed for proper diesel combustion in cold conditions.

36. B — Metallic particles in fifth wheel grease indicate component wear requiring investigation and possible service. The particles come from wearing surfaces on the fifth wheel, trailer upper coupler, or locking components. Investigation identifies the source and determines whether component replacement is needed.
37. B — A bent brake chamber pushrod requires replacement of the brake chamber assembly. Pushrod straightening is not an approved repair because field methods introduce metallurgical uncertainties. The component is subject to substantial cyclic loading, and any compromise to its integrity can produce failure under braking demand.
38. A — Horn testing is performed by activating the horn control from the steering wheel and confirming audible sound output. This direct functional test verifies the complete circuit and horn operation. Voltage measurement, bench testing, and scheduled replacement do not verify actual horn function.
39. C — New vibration at specific highway speeds typically indicates wheel imbalance, wheel damage, bearing wear, or driveshaft problems. Each produces speed-dependent vibration characteristics. Investigation identifies the specific rotating component causing the vibration. Normal operation and perception don't produce new symptoms at specific speeds.
40. B — Steering wheel free play of 2.5 inches on a 22-inch wheel represents 11.4% of diameter — above the 10% maximum (2.2 inches) allowed by Appendix G. This is excessive free play requiring steering system service. Investigation of the steering system components identifies the specific wear source.
41. D — Low DEF tank level despite recent filling indicates a DEF system leak or tank damage requiring investigation. The expected level should have been maintained through normal operation; rapid loss indicates a leak. Normal consumption, fill errors, and evaporation produce different patterns and rates of loss.
42. A — Suspension air bag inspection is a visual procedure examining for cracks, damage, and proper inflation. These visual indicators identify air bag problems affecting suspension function. Removal for bench testing, precision dimension measurement, and scheduled replacement are not standard PMI procedures.
43. B — An engine whining sound that changes pitch with engine load typically indicates turbocharger bearing wear or intake restriction producing load-dependent noise. The turbocharger is most loaded at high engine demand, making these conditions most audible then. Investigation identifies the specific cause.
44. C — Dark brown brake fluid indicates moisture contamination over extended service requiring fluid replacement. Brake fluid is hygroscopic and absorbs moisture, producing color change and

reducing boiling point. The contaminated fluid has lost its protective properties and must be replaced to restore proper brake system function.

45. A — Excessive play in the fifth wheel pivot requires evaluation of the wear and service or replacement of pivot components. Pivot bearings wear through normal use and require service at intervals. Grease application does not reduce actual wear; monitoring and position adjustment do not address the underlying problem.
46. D — Turn signal verification is performed by activating signals and confirming proper flash rate (typically 60-120 flashes per minute). Rates outside this range indicate component problems. Voltage measurement, bench testing, and visual inspection of bulbs alone do not verify actual flash rate function.
47. B — Engine stalling intermittently at idle with no diagnostic codes typically indicates an idle control problem, fuel issue, or air leak affecting idle operation specifically. At idle, the engine is most sensitive to these conditions. ECM updates, driver technique, and normal behavior do not produce intermittent stalling without codes.
48. C — Coolant reservoir at the MIN fill line indicates coolant loss requiring investigation. The expected level is between MIN and MAX marks during normal operation; reaching MIN indicates either an external leak or internal consumption. Investigation identifies the specific source before adding coolant.
49. A — An air compressor pulley showing groove wear from belt contact requires replacement of both the pulley and belt before the vehicle returns to service. The worn pulley cannot maintain proper belt contact, and the belt may have been damaged by running in the worn groove. Both components must be replaced as a set.
50. D — Exhaust manifold inspection is a visual procedure examining for cracks, warping, and secure mounting. These visual findings identify conditions affecting exhaust system integrity. Removal for bench inspection, precision measurement, and scheduled replacement are not standard PMI procedures for manifold inspection.