PRACTICE EXAM 6: A4 SIMULATION — SUSPENSION AND STEERING

1. A vehicle is brought in with a complaint of clunking noise from the front suspension when driving over speed bumps. The MOST likely cause is:

A. A failed power steering pump

B. A worn ball joint, worn strut mount, or worn sway bar end link

C. A worn power steering pulley

D. Air in the clutch hydraulic system

2. A vehicle exhibits a complaint of knocking noise from the front suspension that occurs only during steering input. The MOST likely cause is:

A. A failed power steering pump

B. A worn power steering pulley

C. Air in the clutch hydraulic system

D. A worn or damaged strut bearing or strut mount

3. A vehicle exhibits a complaint of squeaking noise from the front suspension that occurs during slow steering input. The MOST likely cause is:

A. Worn or dry sway bar bushings, worn strut bearing, or worn ball joint with insufficient lubrication

B. A failed power steering pump

C. A worn power steering pulley

D. Air in the clutch hydraulic system

4. A vehicle exhibits a complaint of rattling noise from the front suspension that occurs over rough pavement. The MOST likely cause is:

A. A failed power steering pump

B. A worn power steering pulley

C. Loose suspension fasteners, loose sway bar end links, loose mounting hardware, or loose suspension components

D. Air in the clutch hydraulic system

5. A vehicle exhibits a complaint of creaking noise from the front suspension that varies with vehicle motion. The MOST likely cause is:

A. A failed power steering pump

B. Worn or dry suspension bushings, worn strut mount, or rust between metal components

C. A worn power steering pulley

D. Air in the clutch hydraulic system

6. The proper procedure for differentiating suspension noise types is to:

A. Replace all suspension components as a precaution

B. Replace the steering rack as a precaution

C. Replace the transmission fluid as the only step

D. Identify the noise characteristic, identify the operating condition that produces it, use chassis ear or stethoscope if needed, and inspect the suspect components

7. A vehicle has been brought in with a complaint of strut bearing failure on the right front. The proper procedure for verifying strut bearing failure is to:

A. Apply turning force to the strut while listening for noise, observe for visible play, and inspect the bearing during disassembly

B. Replace the bearing as a precaution

C. Apply compressed air to the bearing

D. Visually inspect for visible damage only

8. A vehicle has been brought in with a complaint of upper ball joint wear. The proper procedure for verifying upper ball joint wear is to:

A. Apply compressed air to the ball joint

B. Replace the ball joint as a precaution

C. Visually inspect for visible damage only

D. Unload the ball joint, manipulate with proper tooling, observe for play, and compare to specification

9. A vehicle equipped with a load-bearing lower ball joint has been brought in for ball joint inspection. The proper procedure for inspecting a load-bearing lower ball joint is to:

A. Apply compressed air to the ball joint

B. Replace the ball joint as a precaution

C. Support the lower control arm to unload the ball joint, manipulate the joint with proper tooling, observe for play, and compare to specification

D. Visually inspect for visible damage only

10. A vehicle has been brought in with a complaint of sway bar end link failure. The MOST likely symptom of sway bar end link failure is:

A. A failed power steering pump

B. Clunking or rattling noise during cornering or over uneven pavement, with reduced cornering stability

C. A worn power steering pulley

D. Air in the clutch hydraulic system

11. The proper procedure for replacing a sway bar end link is to:

A. Apply compressed air to the end link

B. Replace the end link as a precaution

C. Visually inspect for visible damage only

D. Unload the suspension, remove the failed end link, install the new end link with proper hardware torqued to specification, and verify proper operation

12. A vehicle equipped with air suspension has been brought in with a complaint that the vehicle sits low on one corner. The MOST likely cause is:

A. A failed air spring (leaking or ruptured), failed air ride compressor, leak in the air line, or failed height sensor on the affected corner

B. A worn power steering pulley

C. A failed power steering pump

D. Air in the clutch hydraulic system

13. The proper procedure for diagnosing an air suspension complaint is to:

A. Replace the air suspension as the most direct repair

B. Replace the steering rack as a precaution

C. Verify the customer concern, retrieve stored DTCs, monitor scan tool data for height sensor and pressure data, inspect for leaks, and verify component operation

D. Replace the transmission fluid as the only step

14. A vehicle equipped with air suspension has been brought in with a complaint that the air ride compressor runs constantly. The MOST likely cause is:

A. A failed power steering pump

B. An air leak in the system, failed air spring, leak in the air line, failed valve, or failed compressor relief valve

C. A worn power steering pulley

D. Air in the clutch hydraulic system

15. The proper procedure for verifying air suspension component operation is to:

A. Apply compressed air to the components

B. Replace the components as a precaution

C. Visually inspect for visible damage only

D. Verify scan tool data for height sensor input and compressor commands, listen for compressor operation, observe height changes, and inspect for leaks

16. A vehicle equipped with electronically adjustable suspension (variable damping) has been brought in with a complaint of harsh ride. The MOST likely cause is:

A. A failed adjustable damper, failed damper control module, failed sensor input, or fault in the damper control circuit

B. A failed power steering pump

C. A worn power steering pulley

D. Air in the clutch hydraulic system

17. The proper procedure for diagnosing electronically adjustable suspension faults is to:

A. Replace the adjustable suspension as the most direct repair

B. Replace the steering rack as a precaution

C. Verify the customer concern, retrieve stored DTCs, monitor scan tool data for damper commands and sensor inputs, and verify component operation

D. Replace the transmission fluid as the only step

18. A vehicle equipped with stability control has been brought in with a complaint that the stability control warning light is illuminated. The MOST likely cause is:

A. A failed power steering pump

B. A failed wheel speed sensor, steering angle sensor fault, yaw sensor fault, or fault in the stability control module

C. A worn power steering pulley

D. Air in the clutch hydraulic system

19. The proper procedure for diagnosing a stability control fault is to:

A. Verify the customer concern, retrieve stored DTCs, monitor scan tool data for sensor inputs, and verify each sensor's signal

B. Replace the stability control module as the most direct repair

C. Replace the steering rack as a precaution

D. Replace the transmission fluid as the only step

20. A vehicle's stability control system relies on the steering angle sensor to function properly. After a steering angle sensor recalibration, the proper procedure for verifying stability control operation is to:

A. Apply compressed air to the sensor

B. Replace the stability control module as a precaution

C. Replace the steering rack as a precaution

D. Verify the steering angle sensor calibration through scan tool data, perform a road test that exercises the stability control system, and verify proper operation

21. A vehicle equipped with electronic suspension has been brought in for a service that requires removing the suspension. After service, the customer reports that the suspension warning light is illuminated. The MOST likely cause is:

A. A failed power steering pump

B. A worn power steering pulley

C. The suspension control module requires recalibration after the service, requiring the manufacturer-specified calibration procedure

D. Air in the clutch hydraulic system

22. The proper procedure for completing electronic suspension service is to:

A. Apply compressed air to the suspension

B. Verify the manufacturer-specified calibration procedures, perform the procedures, clear stored DTCs, and verify proper operation through a road test

C. Replace the suspension control module as a precaution

D. Replace the transmission fluid as the only step

23. A vehicle has been brought in with a complaint of worn front shock absorbers. The proper procedure for replacing front shock absorbers is to:

A. Apply compressed air to the shocks

B. Replace the shocks as a precaution

C. Visually inspect for visible damage only

D. Support the suspension safely, remove the old shocks, install the new shocks with proper hardware torqued to specification, and verify proper installation

24. A vehicle has been brought in with a complaint of worn front struts. The proper procedure for replacing front struts is to:

A. Compress the spring with the proper spring compressor, replace the strut, transfer the spring and strut mount, install the assembly, and verify alignment after installation

B. Replace the struts without spring compression

C. Apply compressed air to the struts

D. Visually inspect for visible damage only

25. A vehicle has been brought in with a complaint of worn front coil springs. The proper procedure for replacing front coil springs is to:

A. Apply compressed air to the springs

B. Replace the springs without proper compression equipment

C. Use the proper spring compressor or strut spring compressor, follow the manufacturer's specified procedure, and verify proper installation and alignment after replacement

D. Visually inspect for visible damage only

26. A vehicle has been brought in with a complaint of worn lower ball joints. The proper procedure for replacing lower ball joints is to:

A. Apply compressed air to the ball joints

B. Support the suspension safely, remove the failed ball joint using the manufacturer-specified procedure (which may require a press or specific tooling), install the new joint per specification, and verify alignment after installation

C. Replace the ball joints without proper procedure

D. Visually inspect for visible damage only

27. A vehicle has been brought in with a complaint of worn upper control arm bushings. The proper procedure for replacing upper control arm bushings is to:

A. Apply compressed air to the bushings

B. Replace the bushings without proper procedure

C. Visually inspect for visible damage only

D. Remove the upper control arm, press out the failed bushings, install the new bushings per specification, install the control arm, and verify alignment

28. A vehicle has been brought in with a complaint of worn rear shock absorbers. After replacement, the customer reports that the rear of the vehicle still bounces excessively. The MOST likely cause is:

A. The new shock absorbers were not properly seated, the shock fasteners are not torqued to specification, or other components contributing to the bounce (worn springs, worn mounts) were not addressed

B. A failed power steering pump

C. A worn power steering pulley

D. Air in the clutch hydraulic system

29. The proper procedure for verifying suspension service after component replacement is to:

A. Apply compressed air to the suspension

B. Replace the suspension as a precaution

C. Verify all components are properly installed, perform an alignment, road test through varied conditions, and verify no symptoms remain

D. Replace the transmission fluid as the only step

30. A vehicle has been brought in with a complaint of vibration at highway speeds. The technician finds that the wheel balance machine reports the wheel is significantly out of balance. The MOST likely cause is:

A. A failed power steering pump

B. A worn power steering pulley

C. Air in the clutch hydraulic system

D. The wheel has lost balance weights, the tire has shifted on the wheel, or the wheel has internal damage

31. The proper procedure for verifying wheel balance is to:

A. Apply compressed air to the wheel

B. Mount the wheel on a calibrated wheel balancer, perform the balance procedure, install the appropriate balance weights, and verify the balance result is within specification

C. Replace the wheel as a precaution

D. Visually inspect for visible damage only

32. A vehicle equipped with run-flat tires has been brought in with a complaint of tire failure. The MOST likely cause is:

A. A failed power steering pump

B. A worn power steering pulley

C. A run-flat tire was driven beyond its specified distance or speed limit after pressure loss, causing internal damage

D. Air in the clutch hydraulic system

33. The proper procedure for inspecting run-flat tires after pressure loss is to:

A. Inspect for sidewall damage or internal damage from operation in low-pressure or zero-pressure condition, and replace if any damage is found

B. Apply compressed air to the tire

C. Replace the tire as a precaution

D. Visually inspect for visible damage only

34. A vehicle's tire shows visible damage to the sidewall (bulge, cut, or impact damage). The proper appropriate action is to:

A. Apply additional sealant to the damaged area

B. Reuse the tire after inflation

C. Apply hard-facing material to the damage

D. Replace the tire, since sidewall damage cannot be repaired and creates a safety hazard

35. A vehicle has been brought in with a complaint that one tire keeps losing pressure. The technician finds the wheel has visible corrosion at the bead seat area. The MOST likely cause is:

A. A failed power steering pump

B. Corrosion at the wheel bead seat is preventing proper sealing between the tire and wheel, allowing slow air loss

C. A worn power steering pulley

D. Air in the clutch hydraulic system

36. The proper procedure for repairing a wheel bead seat sealing issue is to:

A. Apply additional tire sealant

B. Replace the tire as a precaution

C. Demount the tire, clean the wheel bead seat to remove corrosion, apply appropriate sealing compound if specified, remount and inflate the tire, and verify the leak is resolved

D. Replace the wheel as a precaution

37. A vehicle's tire repair has been performed using a plug repair from the outside. The customer reports the repair is leaking after a few days. The MOST likely cause is:

A. The plug repair from outside was not sufficient for the puncture; a proper internal patch repair is required for a permanent and reliable repair

B. A failed power steering pump

C. A worn power steering pulley

D. Air in the clutch hydraulic system

38. The proper procedure for performing a tire puncture repair is to:

A. Apply additional sealant to the puncture

B. Replace the tire as a precaution

C. Demount the tire, inspect the puncture for size and location, install a proper internal patch repair (combined patch-plug if appropriate) per the tire manufacturer's specification, remount and balance the tire

D. Visually inspect for visible damage only

39. A vehicle's wheel mounting hardware has been damaged. The proper appropriate action is to:

A. Apply hard-facing material to the damaged threads

B. Replace the damaged mounting hardware (lug nuts, lug bolts, or studs as applicable) and torque the new hardware to the manufacturer's specification

C. Apply additional thread locker

D. Reuse the damaged hardware with anti-seize compound

40. The proper procedure for installing a wheel after service is to:

A. Clean the mounting surfaces, install the wheel, install the lug nuts hand-tight, lower the vehicle, and torque the lug nuts to the manufacturer's specification in the proper sequence (typically a star pattern)

B. Apply compressed air to the wheel

C. Replace the wheel as a precaution

D. Apply maximum torque to the lug nuts

PRACTICE EXAM 6: A4 SIMULATION — ANSWER KEY, EXPLANATIONS, AND TASK REMEDIATION

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1. B — A worn ball joint, worn strut mount, or worn sway bar end link. Front suspension clunking over bumps is the diagnostic signature of slack in suspension joints. Each component allows movement when worn, producing the audible clunk during impact loads. *ASE Task Reference: A4 Domain B — Suspension Systems Diagnosis and Repair. Review subsection 4.2.*

2. D — A worn or damaged strut bearing or strut mount. Knocking only during steering input localizes the source to components that load only during steering. The strut bearing rotates during steering; wear produces knocking during the rotation. *ASE Task Reference: A4 Domain B — Suspension Systems Diagnosis and Repair. Review subsection 4.2.*

3. A — Worn or dry sway bar bushings, worn strut bearing, or worn ball joint with insufficient lubrication. Squeaking during slow steering is the diagnostic signature of friction-based wear. Dry bushings, worn bearings, and unlubricated ball joints all produce squeaking during slow articulation. *ASE Task Reference: A4 Domain B — Suspension Systems Diagnosis and Repair. Review subsection 4.2.*

4. C — Loose suspension fasteners, loose sway bar end links, loose mounting hardware, or loose suspension components. Rattling over rough pavement is the diagnostic signature of looseness rather than wear. Loose fasteners, end links, hardware, or components produce the rattle during impact loads. *ASE Task Reference: A4 Domain B — Suspension Systems Diagnosis and Repair. Review subsection 4.2.*

5. B — Worn or dry suspension bushings, worn strut mount, or rust between metal components. Creaking that varies with vehicle motion is the diagnostic signature of binding or friction in the suspension. Worn bushings, mounts, or rust between components produce the creaking sound. *ASE Task Reference: A4 Domain B — Suspension Systems Diagnosis and Repair. Review subsection 4.2.*

6. D — Identify the noise characteristic, identify the operating condition that produces it, use chassis ear or stethoscope if needed, and inspect the suspect components. Noise differentiation requires identification of characteristics and operating conditions. Stethoscope or chassis ear isolates the specific source for inspection. *ASE Task Reference: A4 Domain B — Suspension Systems Diagnosis and Repair. Review subsection 4.2.*

7. A — Apply turning force to the strut while listening for noise, observe for visible play, and inspect the bearing during disassembly. Strut bearing verification requires turning force application, listening for noise, and direct inspection. Each method reveals different aspects of bearing condition. *ASE Task Reference: A4 Domain B — Suspension Systems Diagnosis and Repair. Review subsection 4.2.*

8. D — Unload the ball joint, manipulate with proper tooling, observe for play, and compare to specification. Upper ball joint inspection requires unloading the joint, proper tool manipulation, play observation, and comparison to specification. Wear must exceed the specification limit for replacement. *ASE Task Reference: A4 Domain B — Suspension Systems Diagnosis and Repair. Review subsection 4.2.*

9. C — Support the lower control arm to unload the ball joint, manipulate the joint with proper tooling, observe for play, and compare to specification. Load-bearing lower ball joint inspection requires unloading via support of the lower control arm. The vehicle weight masks wear; unloading reveals the actual play. *ASE Task Reference: A4 Domain B — Suspension Systems Diagnosis and Repair. Review subsection 4.2.*

10. B — Clunking or rattling noise during cornering or over uneven pavement, with reduced cornering stability. Sway bar end link failure produces noise during loading conditions and reduces sway bar effectiveness. Both symptoms develop because the sway bar can no longer transfer force properly. *ASE Task Reference: A4 Domain B — Suspension Systems Diagnosis and Repair. Review subsection 4.2.*

11. D — Unload the suspension, remove the failed end link, install the new end link with proper hardware torqued to specification, and verify proper operation. End link replacement requires safe suspension unloading, removal, proper installation with torque, and operational verification. Each step ensures proper repair. *ASE Task Reference: A4 Domain B — Suspension Systems Diagnosis and Repair. Review subsection 4.2.*

12. A — A failed air spring (leaking or ruptured), failed air ride compressor, leak in the air line, or failed height sensor on the affected corner. Single-corner sag in air suspension indicates an issue specific to that corner. Failed air spring, line leak, or sensor failure each produce loss of height on one corner. *ASE Task Reference: A4 Domain B — Suspension Systems Diagnosis and Repair. Review subsection 4.2.*

13. C — Verify the customer concern, retrieve stored DTCs, monitor scan tool data for height sensor and pressure data, inspect for leaks, and verify component operation. Air suspension diagnosis requires comprehensive systematic approach. Each step provides different diagnostic information about the system. *ASE Task Reference: A4 Domain B — Suspension Systems Diagnosis and Repair. Review subsection 4.2.*

14. B — An air leak in the system, failed air spring, leak in the air line, failed valve, or failed compressor relief valve. Continuous compressor operation indicates the system cannot maintain

pressure. Leaks, failed components, or relief valve failures all cause the compressor to run continuously trying to compensate. *ASE Task Reference: A4 Domain B — Suspension Systems Diagnosis and Repair. Review subsection 4.2.*

15. D — Verify scan tool data for height sensor input and compressor commands, listen for compressor operation, observe height changes, and inspect for leaks. Air suspension component verification requires multiple methods. Scan data, audio observation, height observation, and leak inspection together identify the issue. *ASE Task Reference: A4 Domain B — Suspension Systems Diagnosis and Repair. Review subsection 4.2.*

16. A — A failed adjustable damper, failed damper control module, failed sensor input, or fault in the damper control circuit. Harsh ride on electronically adjustable suspension indicates the damper system cannot provide proper damping. Failed damper, module, sensor, or circuit each produce the symptom. *ASE Task Reference: A4 Domain B — Suspension Systems Diagnosis and Repair. Review subsection 4.2.*

17. C — Verify the customer concern, retrieve stored DTCs, monitor scan tool data for damper commands and sensor inputs, and verify component operation. Electronically adjustable suspension diagnosis requires comprehensive systematic approach including scan tool integration. Each step provides different diagnostic information. *ASE Task Reference: A4 Domain B — Suspension Systems Diagnosis and Repair. Review subsection 4.2.*

18. B — A failed wheel speed sensor, steering angle sensor fault, yaw sensor fault, or fault in the stability control module. Stability control warning indicates the system has detected a fault. The warning may originate from any of the multiple sensors the system depends on, or from the module itself. *ASE Task Reference: A4 Domain A — Steering Systems Diagnosis and Repair. Review subsection 4.1.*

19. A — Verify the customer concern, retrieve stored DTCs, monitor scan tool data for sensor inputs, and verify each sensor's signal. Stability control diagnosis requires comprehensive sensor verification. Each sensor input must be verified since the stability control system relies on multiple inputs. *ASE Task Reference: A4 Domain A — Steering Systems Diagnosis and Repair. Review subsection 4.1.*

20. D — Verify the steering angle sensor calibration through scan tool data, perform a road test that exercises the stability control system, and verify proper operation. Post-recalibration verification requires scan tool calibration confirmation, road test under conditions that exercise the system, and operational verification. *ASE Task Reference: A4 Domain A — Steering Systems Diagnosis and Repair. Review subsection 4.1.*

21. C — The suspension control module requires recalibration after the service, requiring the manufacturer-specified calibration procedure. Suspension service often requires module recalibration to learn the new component positions or to clear adaptive memory. The warning light

indicates the module needs the calibration procedure. *ASE Task Reference: A4 Domain B — Suspension Systems Diagnosis and Repair. Review subsection 4.2.*

22. B — Verify the manufacturer-specified calibration procedures, perform the procedures, clear stored DTCs, and verify proper operation through a road test. Electronic suspension service completion requires calibration verification, calibration completion, DTC clearing, and operational verification. Each step is required for proper post-service operation. *ASE Task Reference: A4 Domain B — Suspension Systems Diagnosis and Repair. Review subsection 4.2.*

23. D — Support the suspension safely, remove the old shocks, install the new shocks with proper hardware torqued to specification, and verify proper installation. Shock absorber replacement requires safe support, removal, proper installation with torque, and verification. Each step is critical for safe and proper operation. *ASE Task Reference: A4 Domain B — Suspension Systems Diagnosis and Repair. Review subsection 4.2.*

24. A — Compress the spring with the proper spring compressor, replace the strut, transfer the spring and strut mount, install the assembly, and verify alignment after installation. Strut replacement requires safe spring compression, strut replacement, component transfer, installation, and post-installation alignment. Each step is critical for safety and proper operation. *ASE Task Reference: A4 Domain B — Suspension Systems Diagnosis and Repair. Review subsection 4.2.*

25. C — Use the proper spring compressor or strut spring compressor, follow the manufacturer's specified procedure, and verify proper installation and alignment after replacement. Spring replacement requires proper compression equipment and the manufacturer's procedure. Improper procedure or equipment can cause serious injury and improper installation. *ASE Task Reference: A4 Domain B — Suspension Systems Diagnosis and Repair. Review subsection 4.2.*

26. B — Support the suspension safely, remove the failed ball joint using the manufacturer-specified procedure (which may require a press or specific tooling), install the new joint per specification, and verify alignment after installation. Ball joint replacement requires the manufacturer-specified procedure and tooling. Some applications require press fitting; verification through alignment ensures proper operation. *ASE Task Reference: A4 Domain B — Suspension Systems Diagnosis and Repair. Review subsection 4.2.*

27. D — Remove the upper control arm, press out the failed bushings, install the new bushings per specification, install the control arm, and verify alignment. Control arm bushing replacement requires arm removal, press fitting, proper installation, and post-installation alignment. Each step ensures proper fit and operation. *ASE Task Reference: A4 Domain B — Suspension Systems Diagnosis and Repair. Review subsection 4.2.*

28. A — The new shock absorbers were not properly seated, the shock fasteners are not torqued to specification, or other components contributing to the bounce (worn springs, worn mounts) were not addressed. Persistent bounce after shock replacement indicates either improper installation or

other contributing components. Each cause must be evaluated. *ASE Task Reference: A4 Domain B — Suspension Systems Diagnosis and Repair. Review subsection 4.2.*

29. C — Verify all components are properly installed, perform an alignment, road test through varied conditions, and verify no symptoms remain. Suspension service verification requires comprehensive approach including installation verification, alignment, road test, and operational verification. Each step confirms a different aspect of proper service. *ASE Task Reference: A4 Domain B — Suspension Systems Diagnosis and Repair. Review subsection 4.2.*

30. D — The wheel has lost balance weights, the tire has shifted on the wheel, or the wheel has internal damage. Significant wheel imbalance indicates either lost weights or component-level issues. Tire shift or wheel damage can cause imbalance that exceeds normal balancing capability. *ASE Task Reference: A4 Domain D — Wheel and Tire Diagnosis. Review subsection 4.4.*

31. B — Mount the wheel on a calibrated wheel balancer, perform the balance procedure, install the appropriate balance weights, and verify the balance result is within specification. Wheel balancing requires calibrated equipment, proper procedure, weight installation, and verification. Each step ensures proper balance. *ASE Task Reference: A4 Domain D — Wheel and Tire Diagnosis. Review subsection 4.4.*

32. C — A run-flat tire was driven beyond its specified distance or speed limit after pressure loss, causing internal damage. Run-flat tires have specific distance and speed limits after pressure loss. Exceeding these limits causes internal damage that ruins the tire. *ASE Task Reference: A4 Domain D — Wheel and Tire Diagnosis. Review subsection 4.4.*

33. A — Inspect for sidewall damage or internal damage from operation in low-pressure or zero-pressure condition, and replace if any damage is found. Run-flat inspection after pressure loss requires checking for damage from operation under low pressure. Any damage requires replacement; the tire cannot be reliably reused. *ASE Task Reference: A4 Domain D — Wheel and Tire Diagnosis. Review subsection 4.4.*

34. D — Replace the tire, since sidewall damage cannot be repaired and creates a safety hazard. Sidewall damage compromises the tire's structural integrity. Repair is not possible because sidewall stresses are too high; replacement is the only safe option. *ASE Task Reference: A4 Domain D — Wheel and Tire Diagnosis. Review subsection 4.4.*

35. B — Corrosion at the wheel bead seat is preventing proper sealing between the tire and wheel, allowing slow air loss. Corrosion at the bead seat creates an irregular surface that prevents proper sealing. The slow air loss is the diagnostic signature of this issue. *ASE Task Reference: A4 Domain D — Wheel and Tire Diagnosis. Review subsection 4.4.*

36. C — Demount the tire, clean the wheel bead seat to remove corrosion, apply appropriate sealing compound if specified, remount and inflate the tire, and verify the leak is resolved. Bead seat repair requires tire demount, corrosion removal, sealing compound application if specified, and

verification. Each step addresses the specific failure mode. *ASE Task Reference: A4 Domain D — Wheel and Tire Diagnosis. Review subsection 4.4.*

37. A — The plug repair from outside was not sufficient for the puncture; a proper internal patch repair is required for a permanent and reliable repair. External plug repairs are not adequate for permanent tire repair. Internal patch repair (or combined patch-plug) is required because external plugs can leak over time. *ASE Task Reference: A4 Domain D — Wheel and Tire Diagnosis. Review subsection 4.4.*

38. C — Demount the tire, inspect the puncture for size and location, install a proper internal patch repair (combined patch-plug if appropriate) per the tire manufacturer's specification, remount and balance the tire. Proper tire repair requires demount, inspection, internal repair, remount, and balance. Each step ensures a permanent and safe repair. *ASE Task Reference: A4 Domain D — Wheel and Tire Diagnosis. Review subsection 4.4.*

39. B — Replace the damaged mounting hardware (lug nuts, lug bolts, or studs as applicable) and torque the new hardware to the manufacturer's specification. Damaged mounting hardware compromises wheel attachment safety. Replacement with new hardware torqued to specification is required for proper wheel attachment. *ASE Task Reference: A4 Domain D — Wheel and Tire Diagnosis. Review subsection 4.4.*

40. A — Clean the mounting surfaces, install the wheel, install the lug nuts hand-tight, lower the vehicle, and torque the lug nuts to the manufacturer's specification in the proper sequence (typically a star pattern). Wheel installation requires clean surfaces, proper sequence, and proper torque. Star pattern torque ensures even clamping; specification torque prevents under- or over-tightening. *ASE Task Reference: A4 Domain D — Wheel and Tire Diagnosis. Review subsection 4.4.*