PRACTICE EXAM 12: ASE A3 SIMULATION (50 QUESTIONS)

50 Questions · 60-Minute Time Limit

1. A clutch disc shows blue-black discoloration and a burnt smell on its friction surface. This condition is MOST directly caused by:

A. A leaking input shaft seal contaminating the disc with oil

B. A pilot bearing that seized and overheated the input shaft

C. Excessive slippage generating heat that overheated the facings

D. The wrong clutch disc diameter installed for the application

2. Which clutch condition would MOST likely cause a clutch to engage too high, near the top of pedal travel, on a properly adjusted system?

A. A worn release bearing dragging on the pressure plate fingers

B. A worn clutch disc that raised the engagement point over time

C. A leaking slave cylinder reducing the available release travel

D. A glazed flywheel surface reducing the friction coefficient

3. A comparison of a coil-spring (Borg & Beck style) pressure plate to a diaphragm-spring pressure plate shows that the diaphragm type:

A. Requires more pedal effort at higher engine speeds

B. Uses multiple coil springs arranged around the cover

C. Loses clamping force more rapidly as the disc wears

D. Provides more consistent clamping force as the disc wears

4. A clutch that releases properly when cold but begins to slip after the engine and transmission reach operating temperature MOST likely indicates:

A. A weak pressure plate diaphragm spring losing tension when hot

B. Air in the hydraulic release system expanding when warmed

C. A binding clutch cable that frees up once it warms and expands

D. A pilot bearing that only contacts the shaft when components expand

5. During a clutch inspection, the technician should check the flywheel for all of the following EXCEPT:

A. The amount of free play in the clutch release linkage

B. Heat checks, cracks, and hard spots on the friction face

C. Surface runout measured with a dial indicator

D. Ring gear teeth for wear, chips, or damage

6. A vehicle's clutch chatters during engagement, and the technician finds the disc facings contaminated with oil. The root cause investigation should focus on:

A. The clutch master cylinder for an internal fluid bypass leak

B. The rear main seal or input shaft seal as the source of the oil

C. The pressure plate diaphragm spring for reduced clamp force

D. The release bearing for excessive radial play and noise

7. The dual-mass flywheel was developed primarily to:

A. Reduce gear rattle and driveline vibration from engine pulses

B. Increase the total clamping force the pressure plate can apply

C. Eliminate the need for a clutch disc with torsional springs

D. Allow the clutch to operate without a pilot bearing

8. A clutch is being replaced because of slippage. Before reassembly, the technician should also inspect and service the:

A. Transmission output shaft seal and tailshaft bushing

B. Differential ring and pinion gear backlash setting

C. Speedometer drive gear and its mating driven gear

D. Pilot bearing, release bearing, fork, and flywheel surface

9. A manual transmission's gear lubricant should typically be changed:

A. Every oil change to keep the synchronizers clean

B. At the manufacturer's specified interval or if contaminated

C. Only when the transmission is removed for a clutch job

D. Never, because it is a sealed lifetime-fill component

10. A comparison between a synchronized and a non-synchronized (crash box) gear shows that the synchronized gear:

A. Requires the driver to double-clutch during every shift

B. Uses sliding dog clutches with no speed-matching device

C. Brings the gear and shaft to matching speed before engaging

D. Can only be engaged when the vehicle is completely stopped

11. The MOST common root cause of a single worn-out synchronizer in an otherwise healthy transmission is:

A. A driver habit of forcing or rushing shifts into that gear

B. Using a gear lubricant that is one grade too thick

C. An overfilled transmission case foaming the lubricant

D. A misaligned bell housing stressing the input shaft

12. A transmission has worn input and output bearings and metal in the lubricant. The MOST appropriate repair is to:

A. Add a heavier gear lubricant to quiet the worn bearings

B. Flush the transmission and refill with fresh lubricant only

C. Replace only the bearings that are currently making noise

D. Disassemble, clean, and replace bearings and worn components

13. A vehicle's manual transmission was filled with the wrong lubricant, and now the synchronizers are damaged. The MOST likely reason the wrong lubricant caused damage is:

A. The lubricant was too thin and leaked out past the seals

B. The lubricant raised the operating temperature dangerously

C. The lubricant's additives were incompatible with the synchro material

D. The lubricant contained too much friction modifier additive

14. A transmission jumps out of gear, and inspection reveals worn detent notches on the shift rail. The function this worn part normally performs is to:

A. Synchronize the gear and shaft speeds before engagement

B. Hold the shift rail in its selected position to prevent slipout

C. Prevent two gears from engaging at the same time

D. Transmit the shifter motion to the synchronizer sleeve

15. A comparison of a top-loaded versus a side-loaded manual transmission refers to the:

A. Location where the shift mechanism enters the transmission case

B. Position of the drain plug relative to the fill plug

C. Direction the input shaft points relative to the engine

D. Side of the vehicle the shifter is mounted for the driver

16. A manual transmission's non-synchronized reverse gear grinds when the driver selects reverse even at a complete stop. The MOST likely cause is:

A. A worn reverse synchronizer assembly needing replacement

B. The wrong gear lubricant viscosity slowing the gears down

C. A misadjusted shift linkage for the forward gears only

D. The clutch disc dragging slightly, keeping the input shaft spinning

17. A technician must select a replacement bearing for a transmission. The BEST source for the correct bearing specification is:

A. A bearing of similar size found in the shop inventory

B. The dimensions of the old bearing measured with calipers

C. The manufacturer's service information and part number

D. A universal bearing chart based on the shaft diameter

18. A transmission whines under load in every forward gear but is quiet when coasting. Compared to a bearing noise, this load-sensitive whine MOST likely indicates:

A. A worn output shaft bearing loaded at all road speeds

B. Gear-related noise from worn or improperly loaded gear teeth

C. A worn release bearing riding on the diaphragm fingers

D. A worn pilot bearing in the crankshaft end bore

19. The purpose of the extension (tailshaft) housing bushing on a RWD manual transmission is to:

A. Support the slip yoke and maintain output shaft alignment

B. Seal the lubricant inside the transmission at the rear

C. Drive the speedometer gear from the output shaft

D. Provide the mounting point for the transmission crossmember

20. A FWD transaxle differs from a RWD transmission-and-axle layout primarily because the transaxle:

A. Uses a longer drive shaft to reach the rear wheels

B. Requires a separate transfer case for the front wheels

C. Houses the transmission and differential in one assembly

D. Cannot use synchronizers on its forward gears

21. A FWD vehicle's outer CV joint has been clicking during turns for months and now binds. The root cause of the joint failure was MOST likely:

A. The wrong transaxle lubricant grade used at the last service

B. An overfilled transaxle forcing grease into the joint

C. The differential side gears wearing and loading the joint

D. A torn boot that let grease escape and contaminants enter

22. When comparing the inner and outer CV joints on a FWD half shaft, the inner joint is designed to:

A. Allow only steering articulation at large angles

B. Allow in-and-out plunging movement during suspension travel

C. Transmit the speedometer signal to the dash cluster

D. Lock the half shaft to the wheel hub assembly

23. A FWD transaxle's final drive whines, and the technician must decide on a repair. The MOST appropriate approach is to:

A. Inspect the ring and pinion and replace worn final drive gears

B. Add friction modifier to quiet the final drive gear noise

C. Replace the clutch disc to eliminate the driveline whine

D. Adjust the shift linkage to correct the gear engagement

24. A transaxle differential has been noisy and the lubricant contains metal particles. Comparing repair options, the BEST choice is to:

A. Top off the lubricant and monitor the noise over time

B. Add a heavier lubricant to cushion the worn gears

C. Replace only the differential cover gasket and refill

D. Disassemble and inspect the differential gears and bearings

25. A FWD vehicle pulls to one side under hard acceleration. Comparing possible causes, the one MOST specific to the driveline is:

A. A brake caliper dragging on one front wheel

B. Unequal tire pressures between the two front tires

C. Unequal axle lengths or a worn intermediate shaft bearing

D. A misaligned front suspension causing a steering pull

26. A half shaft's outer CV joint is being repacked. The correct grease to use is:

A. The CV joint grease supplied with the boot kit or specified type

B. Ordinary chassis grease from the shop grease gun

C. Gear oil applied to the joint and then sealed in the boot

D. Wheel bearing grease packed into the joint by hand

27. A RWD drive shaft U-joint failed prematurely after a recent replacement. The MOST likely root cause is:

A. The drive shaft was too long for the wheelbase of the vehicle

B. A needle bearing was dislodged or the joint installed misaligned

C. The differential lubricant was the wrong viscosity grade

D. The transmission output shaft seal was leaking onto the joint

28. Comparing a single Cardan U-joint to a constant-velocity joint, the single U-joint:

A. Maintains uniform output speed at all operating angles

B. Is used only on front-wheel-drive half shafts

C. Requires no lubrication over its entire service life

D. Produces speed fluctuations that increase with the operating angle

29. A two-piece drive shaft's center support bearing failed early. The MOST likely root cause is:

A. The drive shaft was balanced incorrectly at the factory

B. The U-joints were greased too frequently during service

C. A torn or deteriorated rubber insulator let water reach the bearing

D. The slip yoke splines were lubricated with the wrong grease

30. A drive shaft is removed for service. To prevent a vibration after reinstallation, the technician should:

A. Reinstall it in the same orientation using index marks made earlier

B. Rotate it 180 degrees from its original position for even wear

C. Install new U-joints regardless of the old joints' condition

D. Shorten the slip yoke engagement to reduce the rotating mass

31. The recommended maintenance for serviceable (greaseable) U-joints is to:

A. Replace them at every drive shaft removal regardless of condition

B. Spray them with penetrating oil at each oil change interval

C. Soak them in solvent and air-dry before reinstallation

D. Lubricate them at the specified interval until grease purges the seals

32. A drive shaft vibration is traced to a worn U-joint. Comparing the symptom to an unbalanced shaft, a worn U-joint typically produces:

A. A vibration only within a narrow speed band, then smooth

B. A vibration across a broad speed range, often with a clunk

C. A steady hum that does not change with vehicle speed

D. A noise heard only during sharp cornering maneuvers

33. A drive axle's ring and pinion failed with chipped and broken teeth. The MOST likely root cause is:

A. The axle lubricant was changed too frequently over time

B. The vehicle was driven gently at low speeds for many years

C. Shock loading from abuse or operation with low lubricant

D. The differential cover gasket was slightly over-torqued

34. Comparing an open differential to a limited-slip differential, the limited-slip unit:

A. Transfers torque to the wheel with traction when one wheel slips

B. Allows the drive wheels to turn at exactly the same speed always

C. Eliminates the need for a ring and pinion gear set

D. Sends all torque to the wheel with the least available traction

35. A rear axle's pinion seal is being replaced. To set the correct pinion bearing preload on a crush-sleeve design, the technician must:

A. Reuse the old crush sleeve and torque to the original value

B. Install a new crush sleeve and tighten the nut to reach proper preload

C. Add shims behind the pinion head until the backlash is correct

D. Torque the pinion nut to a fixed value without checking preload

36. A C-clip axle shaft broke and the wheel separated from the vehicle. The reason the wheel could come off is that a C-clip axle:

A. Uses a tapered shaft held by a single retaining nut

B. Relies on the brake drum to retain the axle in the housing

C. Has a bolt-on retainer plate at the outer bearing

D. Is retained only by the C-clip inside the differential

37. The MOST appropriate maintenance for a clutch-type limited-slip differential is to:

A. Replace the clutch packs at every lubricant change

B. Use any GL-5 lubricant without regard to additives

C. Use the specified lubricant with the correct friction modifier

D. Avoid changing the lubricant to preserve the clutch friction

38. A drive axle assembly should be inspected for leaks at all of the following locations EXCEPT the:

A. Transmission input shaft seal at the clutch housing

B. Pinion seal where the yoke enters the housing

C. Axle shaft seals at each end of the housing

D. Differential cover gasket along its sealing surface

39. A vehicle's ring and pinion was set up with the contact pattern too deep, toward the root and the flank. This indicates the pinion is positioned:

A. Correctly, and the backlash should be reduced next

B. With excessive bearing preload that must be relieved

C. Too far away from the ring gear and should move out

D. Too close to the ring gear and should move outward

40. A drive axle howls on deceleration but is quiet on acceleration. Compared to a drive-side noise, the coast-side howl indicates the adjustment needed is to:

A. Increase backlash by moving the ring gear away from the pinion

B. Decrease backlash by moving the ring gear toward the pinion

C. Increase the pinion bearing preload with a new crush sleeve

D. Replace the carrier bearings to eliminate the coast noise

41. A part-time 4WD system and a full-time 4WD system differ in that the full-time system:

A. Cannot be operated in four-wheel drive on loose surfaces

B. Requires manual locking hubs to be engaged by the driver

C. Uses a center differential allowing front-to-rear speed difference

D. Locks the front and rear axles together at all times

42. A 4WD transfer case failed with a stretched chain and worn sprockets. The MOST likely root cause is:

A. High mileage, heavy use, and lack of fluid maintenance

B. Operating the vehicle only in two-wheel drive for years

C. Using the wrong friction modifier in the differential

D. The front locking hubs being left engaged on the highway

43. Comparing a viscous coupling to an electronically controlled clutch-pack coupling in AWD systems, the viscous coupling:

A. Uses a control module to vary the torque to the rear axle

B. Transfers torque automatically through silicone fluid shear when slip occurs

C. Requires the driver to select the engagement manually

D. Provides low-range gear reduction for off-road driving

44. A 4WD vehicle's front axle vacuum disconnect fails to engage. The technician should inspect all of the following EXCEPT the:

A. Vacuum hoses and connections for cracks or leaks

B. Vacuum actuator diaphragm for rupture or failure

C. Vacuum reservoir and check valve for leakage

D. Rear differential ring gear backlash setting

45. A full-time 4WD vehicle is operated with the center differential locked on dry pavement, and the driver reports binding. The root cause of the binding is that:

A. The locked center differential removes the allowed front-to-rear speed difference

B. The transfer case fluid level is too low for dry operation

C. The front locking hubs are improperly engaged on pavement

D. The rear differential ring gear backlash is set too tight

46. The MOST important reason to keep all four tires matched on a full-time 4WD or AWD vehicle is to:

A. Improve the vehicle's fuel economy on the highway

B. Maintain even brake pad wear across all four wheels

C. Prevent constant strain and wear on the center differential or coupling

D. Keep the speedometer reading accurate at all speeds

47. A transfer case is noisy in low range but quiet in high range. Comparing the two ranges, the low-range noise MOST likely indicates:

A. A worn rear output shaft seal allowing fluid to escape

B. Worn planetary or reduction gears used only in low range

C. A worn front axle disconnect actuator binding the system

D. The chain stretched and skipping on both sprockets equally

48. A 4WD vehicle's transfer case was serviced with the wrong fluid. The MOST likely consequence is:

A. The front locking hubs will seize in the engaged position

B. The rear driveshaft U-joints will fail within a few miles

C. The center differential gears will strip under light load

D. Poor lubrication, clutch chatter, or shifting difficulty

49. A customer asks why their AWD vehicle should not use a compact spare tire for extended driving. The BEST explanation is that the smaller spare:

A. Will trigger the ABS system to disable the brakes entirely

B. Reduces the vehicle's ground clearance below a safe level

C. Has a different rolling diameter that strains the AWD system

D. Cannot transmit any power to the wheel it is mounted on

50. Before returning a 4WD vehicle after transfer case and axle service, the technician should verify the:

A. Engine timing and idle speed are within specification

B. Brake pad thickness on all four wheels meets the minimum

C. Fluid levels, engagement in all ranges, and absence of leaks

D. Tire rotation pattern matches the manufacturer's schedule

PRACTICE EXAM 12: ANSWER KEY AND EXPLANATIONS

1. C — Blue-black discoloration and a burnt smell on the facings are heat damage from excessive clutch slippage, which generates high temperatures. Oil contamination would leave a greasy film, not heat coloring. The burnt appearance points directly to slip-induced overheating.
2. B — As a clutch disc wears thinner, the pressure plate fingers rise and the engagement point moves higher in pedal travel. A worn disc is the usual reason a properly adjusted clutch engages near the top. Disc thickness governs where engagement occurs.
3. D — A diaphragm-spring pressure plate maintains more consistent clamping force as the disc wears, unlike coil-spring designs whose force falls off. This steady clamp is a key diaphragm advantage. Consistent clamping over wear distinguishes the diaphragm type.
4. A — A clutch that holds cold but slips once hot points to a weak diaphragm spring that loses tension at operating temperature, reducing clamp load. Heat exposes the marginal spring. The temperature-dependent slip identifies the weak diaphragm spring.
5. A — Flywheel inspection covers heat checks, cracks, hard spots, surface runout, and ring gear teeth. Clutch release linkage free play is a pedal and linkage check, not a flywheel item. It is the exception in a flywheel inspection.
6. B — Oil-contaminated clutch facings require finding the leak source, typically the rear main engine seal or the transmission input shaft seal. Correcting the leak prevents repeat contamination. The investigation must trace the oil to its seal.
7. A — The dual-mass flywheel was developed to absorb engine torsional pulses and reduce gear rattle and driveline vibration, using internal damper springs between its two masses. It does not increase clamp force or remove other components. Vibration and rattle reduction is its purpose.
8. D — During a clutch replacement, the technician should also inspect and service the pilot bearing, release bearing, fork, and flywheel surface, since these wear with the clutch. Servicing them prevents a comeback. These related components are checked during the job.
9. B — Manual transmission gear lubricant is changed at the manufacturer's specified interval or whenever it is found contaminated. It is neither an every-oil-change item nor a true lifetime fill in most cases. Following the specified interval maintains the gearbox.

10. C — A synchronized gear uses a synchronizer to bring the gear and shaft to matching speed before the teeth engage, allowing smooth shifts. A non-synchronized crash box has no such device. Speed matching before engagement defines the synchronized design.
11. A — A single worn synchronizer in an otherwise healthy transmission usually traces to a driver habit of forcing or rushing shifts into that one gear. Lubricant or alignment issues would affect more than one gear. The isolated wear points to shift technique.
12. D — Worn input and output bearings with metal in the lubricant require disassembly, cleaning, and replacement of the bearings and worn components. Adding fluid or replacing only noisy parts leaves damage behind. A full teardown and rebuild is the proper repair.
13. C — The wrong lubricant damages synchronizers when its additive package is incompatible with the synchronizer material, such as extreme-pressure additives attacking yellow-metal rings. The chemical mismatch causes the wear. Additive incompatibility is the damaging factor.
14. B — The detent mechanism, including the rail notches, holds each shift rail in its selected position to prevent the gear from slipping out. Worn notches let the rail walk out. Positional holding to prevent slipout is the detent's function.
15. A — Top-loaded versus side-loaded refers to where the shift mechanism enters the transmission case, from the top or the side. It is not about plug location, shaft direction, or shifter side. The shift-mechanism entry point defines the term.
16. D — A non-synchronized reverse that grinds even at a full stop means the input shaft and gears are still turning from a slightly dragging clutch disc. A worn synchronizer cannot be the cause because reverse has none. The clutch drag keeps the gears spinning.
17. C — The correct replacement bearing is identified from the manufacturer's service information and part number, ensuring exact fit and rating. Similar shop bearings, caliper measurements, or universal charts risk a wrong part. The factory specification is the reliable source.
18. B — A whine that appears under load in every gear but quiets on coast is gear-related noise from worn or improperly loaded gear teeth, since gear mesh load changes with throttle. A bearing would be more constant. The load sensitivity points to the gears.
19. A — The extension housing bushing supports the slip yoke and maintains output shaft alignment at the rear of the transmission. The seal handles fluid retention separately. Supporting the yoke and aligning the output shaft is the bushing's role.
20. C — A transaxle houses the transmission and differential together in one assembly, which suits front-wheel-drive layouts. A RWD setup separates them with a drive shaft. The combined housing is the defining transaxle feature.
21. D — An outer CV joint that clicked for months before binding most likely failed because a torn boot let grease escape and contaminants enter, destroying the joint. The boot is the joint's protection. Boot failure is the root cause of the wear.
22. B — The inner CV joint is a plunging design that allows in-and-out movement to accommodate suspension travel and length change, while the outer joint handles steering angle. The inner joint plunges. In-and-out movement defines its function.
23. A — A whining transaxle final drive is addressed by inspecting the ring and pinion and replacing the worn final drive gears. Friction modifier, clutch, or linkage changes do not fix gear wear. Inspecting and replacing the gears is the proper repair.
24. D — A noisy transaxle differential with metal particles in the lubricant requires disassembly and inspection of the differential gears and bearings. Topping off, heavier oil, or a gasket alone ignores the damage. Teardown and inspection is the correct choice.

25. C — Among the listed causes of an acceleration pull, unequal axle lengths or a worn intermediate shaft bearing is the driveline-specific cause of torque steer. Brakes, tire pressure, and alignment are non-driveline issues. The axle or intermediate shaft is the driveline source.
26. A — An outer CV joint is repacked with the CV joint grease supplied in the boot kit or the specified type, which is formulated for the joint's loads. Chassis grease, gear oil, or wheel bearing grease are not suitable. The correct CV grease must be used.
27. B — A U-joint that fails soon after replacement usually had a needle bearing dislodged during assembly or was installed misaligned, destroying the joint quickly. Shaft length, lubricant, or a seal leak would not cause this. The installation error is the root cause.
28. D — A single Cardan U-joint produces speed fluctuations that grow larger as the operating angle increases, unlike a constant-velocity joint. It needs proper angles and lubrication. The angle-dependent speed variation distinguishes the single U-joint.
29. C — A center support bearing that fails early usually had a torn or deteriorated rubber insulator that let water and contaminants reach the bearing. The insulator protects and isolates it. Its failure is the root cause of the early bearing wear.
30. A — A removed drive shaft should be reinstalled in its original orientation using index marks so the factory balance and phasing are preserved. Rotating it or shortening yoke engagement introduces vibration. Reinstalling as marked prevents the vibration.
31. D — Greaseable U-joints are lubricated at the specified interval until fresh grease purges from all four seals, confirming complete lubrication. Replacing every time, spraying oil, or solvent-soaking are improper. Greasing until purge is the correct maintenance.
32. B — A worn U-joint produces vibration across a broad speed range and often a clunk on torque changes, while an unbalanced shaft vibrates in a narrow band. The broad range plus clunk identifies joint wear. The symptom pattern separates it from imbalance.
33. C — Chipped and broken ring and pinion teeth result from shock loading due to abuse or operation with low lubricant breaking the oil film. Gentle driving or frequent fluid changes do not cause this. Shock loading or lubrication loss is the root cause.
34. A — A limited-slip differential transfers torque to the wheel that still has traction when the other wheel slips, unlike an open unit. This improves traction on uneven surfaces. Biasing torque to the gripping wheel defines the limited-slip design.
35. B — On a crush-sleeve pinion, the technician installs a new crush sleeve and tightens the nut until the specified bearing preload is reached. Reusing the old sleeve or torquing to a fixed value without checking preload is improper. A new sleeve set to preload is correct.
36. D — A C-clip axle is retained only by the C-clip inside the differential, so if the shaft breaks outboard of the clip, the wheel and shaft can slide out of the housing. There is no outer retainer plate. The single internal clip is why the wheel can separate.
37. C — A clutch-type limited-slip differential is maintained with the specified lubricant containing the correct friction modifier, which the clutch packs require. Generic GL-5, skipping changes, or replacing clutches each time are wrong. The specified lube with modifier is correct.
38. A — Drive axle leak inspection covers the pinion seal, the axle shaft seals, and the differential cover gasket. The transmission input shaft seal belongs to the clutch housing, not the axle. It is the exception among axle leak points.
39. D — A contact pattern too deep, toward the root and flank, shows the pinion is set too close to the ring gear and must move outward to center the pattern. Depth controls the pattern position. Moving the pinion out corrects the deep contact.

40. B — A howl on deceleration (coast) is reduced by decreasing backlash, moving the ring gear toward the pinion. Coast-side noise responds opposite to drive-side noise. Reducing backlash addresses the coast howl.
41. C — A full-time 4WD system uses a center differential that allows the front and rear driveshafts to turn at different speeds, making it safe on all surfaces. A part-time system locks them together. The center differential distinguishes full-time 4WD.
42. A — A stretched transfer case chain with worn sprockets results from high mileage, heavy use, and neglected fluid maintenance over time. Light 2WD use or differential additives are unrelated. Accumulated wear and poor maintenance are the root cause.
43. B — A viscous coupling transfers torque automatically by shearing silicone fluid when a speed difference (slip) develops, with no module or driver input. An electronic clutch-pack coupling uses a controller instead. Automatic fluid-shear engagement defines the viscous unit.
44. D — Diagnosing a vacuum front-axle disconnect covers the vacuum hoses, actuator diaphragm, and reservoir and check valve. The rear differential ring gear backlash is unrelated to the vacuum system. It is the exception in this diagnosis.
45. A — Locking the center differential on dry pavement removes the front-to-rear speed difference it normally allows, causing windup and binding. Fluid level, hubs, or backlash are not the cause. The locked differential creates the bind.
46. C — Matching all four tires on a full-time 4WD or AWD vehicle prevents constant strain and wear on the center differential or coupling caused by differing rolling diameters. Economy, brake wear, and speedometer accuracy are minor by comparison. Protecting the driveline is the key reason.
47. B — Noise only in low range comes from the planetary or reduction gears that carry the load exclusively in low range. High range bypasses them, so they stay quiet. The low-range-only noise isolates the reduction gears.
48. D — The wrong transfer case fluid causes poor lubrication, clutch chatter, or shifting difficulty because the fluid's properties are matched to the unit. It does not seize hubs, fail U-joints, or strip gears directly. Lubrication and engagement faults are the likely result.
49. C — A compact spare has a different rolling diameter than the road tires, which strains the AWD center differential or coupling during extended driving. It is not an ABS, clearance, or power-transfer issue. The diameter mismatch is the reason to limit its use.
50. C — Before releasing a serviced 4WD vehicle, the technician verifies fluid levels, proper engagement in all ranges, and the absence of leaks to confirm the repair. Engine timing, brake pads, and rotation schedule are outside this service. Confirming fluids, engagement, and leaks completes the job.