

PRACTICE EXAM 10: ASE A3 SIMULATION (50 QUESTIONS)

50 Questions • 60-Minute Time Limit

1. A customer complains that the clutch pedal sometimes stays on the floor after being pressed and must be pulled up by hand. The MOST likely cause is:

- A. A worn clutch disc that has reached its service wear limit
- B. A weak or broken pedal return spring or over-center spring
- C. A glazed flywheel surface reducing the friction available
- D. A worn pilot bearing supporting the input shaft in the crank

2. A technician road-tests a vehicle to confirm a clutch slip complaint. The BEST method to verify slipping is to:

- A. Idle the engine in neutral and listen for a release bearing noise
- B. Rev the engine with the clutch pedal pressed to the floor fully
- C. Coast downhill in neutral and feel for driveline vibration
- D. Drive in a high gear at low speed and accelerate firmly uphill

3. While replacing a clutch, the technician notices the input shaft splines are dry. Before installing the new disc, the technician should:

- A. Apply a light film of high-temperature grease to the splines
- B. Coat the splines with gear oil to allow the disc to slide freely
- C. Leave the splines dry to prevent grease from reaching the disc

D. Pack the splines fully with grease to prevent any future wear

4. A clutch disc is installed backward, with the flywheel side facing the transmission. The MOST likely result is:

- A. The clutch will slip badly under all acceleration conditions
- B. The release bearing will fail within the first week of use
- C. The clutch will not release and the transmission cannot seat properly
- D. The flywheel will overheat and develop hard spots quickly

5. A customer reports a clutch that has become progressively harder to press over many months on a cable-operated system. The MOST likely cause is:

- A. Air slowly entering the hydraulic clutch release circuit
- B. A clutch cable that is fraying and binding inside its housing
- C. A pressure plate that is gradually losing its clamping force
- D. A clutch disc wearing down and changing the pedal height

6. Before installing a new pressure plate, the technician should check the new flywheel friction surface and:

- A. Verify the dowel pins align the pressure plate to the flywheel
- B. Remove the pilot bearing to allow the input shaft to float
- C. Grind the flywheel surface to roughen it for better grip
- D. Install the release bearing onto the pressure plate fingers

7. A clutch job is complete, but the customer returns reporting the clutch grabs and shudders only when cold and smooths out when warm. The MOST likely cause is:

- A. The release bearing is worn and noisy during engagement

- B. The flywheel bolts were under-torqued during the install
- C. The pilot bearing was installed at the incorrect depth
- D. Moisture or surface contamination on the disc that burns off when warm

8. The correct torque procedure for pressure plate bolts is to:

- A. Tighten each bolt fully one at a time around the cover
- B. Tighten the two top bolts fully, then the rest in any order
- C. Tighten gradually in a crisscross pattern to specification
- D. Tighten until the cover contacts, then add one full turn each

9. A customer says the transmission makes a noise that is there in every gear and changes with vehicle speed, even when coasting in neutral with the clutch pedal up while rolling. The MOST likely cause is:

- A. A worn output shaft or road-speed bearing turning with vehicle speed
- B. A worn input shaft bearing loaded only when the clutch is engaged
- C. A failing release bearing riding on the pressure plate fingers
- D. A worn pilot bearing supporting the input shaft tip in the crank

10. A technician is verifying a transmission fluid leak. The BEST first step is to:

- A. Remove the transmission to inspect all the internal seals
- B. Clean the area, then drive and recheck to locate the source
- C. Replace the input and output shaft seals as a precaution
- D. Add dye and immediately disassemble the transmission case

11. A manual transmission slips out of fourth gear repeatedly. The technician has confirmed the synchronizer and engagement teeth are good. The next item to inspect is the:

- A. Clutch disc facings for wear near the service limit
- B. Input shaft bearing for roughness or excessive play
- C. Shift fork, detent spring, and detent ball for wear
- D. Speedometer drive gear meshing on the output shaft

12. A vehicle's manual transmission shifts fine except it is very difficult to get into reverse and often grinds. On this transmission reverse is not synchronized. The BEST advice is to:

- A. Replace the reverse gear synchronizer assembly immediately
- B. Adjust the clutch pedal free play to increase release travel
- C. Add a thicker gear lubricant to slow the gear rotation
- D. Shift to a forward gear briefly first to stop the gears, then select reverse

13. A transmission case bearing bore is worn and a bearing spins in the bore. The correct repair is to:

- A. Use a thread-locking compound to hold the bearing in place
- B. Repair the bore with a sleeve or replace the case as needed
- C. Stake the bearing in three places with a center punch tool
- D. Install an oversized bearing pressed firmly into the worn bore

14. A customer reports a clunk felt through the shifter when quickly releasing the throttle in gear. The transmission mounts are intact. The MOST likely cause is:

- A. A worn synchronizer for the gear currently selected
- B. Excessive backlash in the gear train or worn output components
- C. A low gear lubricant level starving the gear set of oil
- D. A clutch disc that is worn down near its service limit

15. When reassembling a transmission, the technician must ensure the synchronizer hub and sleeve are oriented correctly because:

- A. The sleeve only fits onto the hub in one rotational position
- B. The hub must face the flywheel for proper input shaft support
- C. The chamfered or marked side must face the correct gear for proper shift
- D. The sleeve carries the gear lubricant up to the upper gears

16. A transmission is noisy in third gear only, and the noise is the same on acceleration and deceleration. The MOST likely cause is:

- A. A worn input shaft bearing loaded in every gear range
- B. The clutch release bearing contacting the diaphragm fingers
- C. A worn pilot bearing in the crankshaft end bore
- D. Worn third gear teeth or the third gear's supporting bearing

17. A transmission's shift lever has excessive free play and vague engagement, but the internal components are good. The MOST likely cause is:

- A. Worn synchronizer blocking rings on the most-used gears
- B. Worn shift linkage bushings or a worn shifter pivot
- C. A low gear lubricant level reducing the shift quality
- D. A worn clutch disc affecting the engagement point

18. A technician needs to remove a press-fit bearing from a transmission shaft without damaging the shaft. The BEST tool is:

- A. A bearing splitter and press to pull the bearing squarely
- B. A cold chisel and hammer to split the bearing race
- C. A pry bar levering against the gear behind the bearing

D. A torch to heat and expand the bearing off the shaft

19. A customer complains of a gear lubricant smell and a small leak after the transmission was recently serviced. The MOST likely cause is:

- A. The wrong gear lubricant viscosity was installed at service
- B. The transmission is internally damaged from the service work
- C. The case was overfilled or a seal or gasket was disturbed during service
- D. The clutch hydraulic system is leaking onto the transmission

20. A FWD vehicle's half shaft is being removed. The technician should support the half shaft during removal to prevent:

- A. The transaxle from leaking all of its lubricant rapidly
- B. The wheel speed sensor from being damaged by the shaft
- C. The brake caliper from contacting the rotor surface
- D. Damage to the inner CV joint from overextending it

21. A FWD transaxle's reverse gear is hard to engage and grinds, but the forward gears shift fine. After confirming the clutch fully releases, the MOST likely cause is:

- A. A worn reverse idler gear or its non-synchronized engagement
- B. The final drive ring and pinion gears worn beyond limits
- C. The differential side bearings set with too much preload
- D. A worn outer CV joint on the right front half shaft

22. A FWD vehicle has a growl that rises with vehicle speed and changes noticeably when turning — louder during a turn in one direction and quieter in the other. The MOST likely cause is:

- A. A worn outer CV joint that clicks only during slow tight turns

- B. A worn front wheel bearing loaded and unloaded during turns
- C. The final drive ring and pinion gears with excessive backlash
- D. A worn inner tripod joint causing shudder under acceleration

23. When servicing a transaxle, a technician finds the differential ring gear bolts. The correct practice for these bolts is to:

- A. Reuse them and apply anti-seize to prevent corrosion
- B. Tighten them only finger-tight and then back off slightly
- C. Reuse the old bolts but torque them to half specification
- D. Replace them if specified and torque to specification in sequence

24. A FWD transaxle produces a clunk during hard acceleration in a straight line, with no clicking during turns and intact boots. The MOST likely cause is:

- A. A worn outer CV joint that clicks only during tight turns
- B. A worn front wheel bearing growling under cornering loads
- C. A worn inner CV (tripod) joint loaded during acceleration
- D. The differential ring gear backlash being out of specification

25. After replacing a half shaft, the technician should verify the:

- A. Hub nut is torqued to specification and properly retained
- B. Differential side bearing preload is reset to zero clearance
- C. Transaxle case is split to confirm the inner joint seating
- D. Clutch master cylinder is bled to restore the pedal height

26. A FWD vehicle's transaxle leaks at the axle seal only when parked on an incline, not on level ground. The MOST likely cause is:

- A. A cracked transaxle case that opens only under load
- B. An overfilled transaxle allowing fluid past the seal when tilted
- C. A worn input shaft seal leaking only during operation
- D. A loose drain plug that weeps only during driving

27. A technician is inspecting U-joints on a RWD vehicle. The BEST method to check for U-joint wear is to:

- A. Spin the drive shaft rapidly by hand and listen for noise
- B. Apply the parking brake and rev the engine in neutral
- C. Grip the drive shaft and try to rotate and rock the joint for play
- D. Measure the drive shaft length with a tape measure

28. A grease fitting on a serviceable U-joint will not take grease with a grease gun. The MOST likely reason is:

- A. The U-joint bearings are seized or rusted and the joint needs replacement
- B. The grease gun is the wrong type for the fitting size
- C. The drive shaft must be removed before greasing is possible
- D. The grease has been overfilled and the joint is already full

29. A two-piece drive shaft vibrates and rumbles, worsening as speed increases. The U-joints are good and the shaft is in balance. The MOST likely cause is:

- A. The slip yoke splines are worn and clunking under torque
- B. The drive shaft tube is bent from a road hazard impact
- C. The pinion angle has changed from worn suspension parts
- D. A worn center support bearing on the two-piece shaft

30. When replacing a drive shaft, the technician should index-mark the shaft to the pinion flange to:

- A. Identify which U-joint is closest to the transmission
- B. Maintain the factory balance and phasing of the assembly
- C. Determine the correct length of the replacement shaft
- D. Locate the grease fittings for future lubrication service

31. A CV axle boot clamp has failed and grease has been thrown around the inside of the wheel well, but the joint is still quiet. The BEST repair is to:

- A. Replace the complete half shaft assembly with a new unit
- B. Wipe off the grease and reinstall the old clamp tightly
- C. Clean the joint, repack with the correct grease, and install a new boot and clamp
- D. Add fresh grease over the old grease and install a new clamp

32. A drive shaft is being balanced and the technician uses hose clamps as a diagnostic tool. The clamps are used to:

- A. Locate the heavy spot by repositioning weight around the shaft
- B. Permanently secure the drive shaft balance for the long term
- C. Hold the U-joint bearing caps in place during the test drive
- D. Measure the runout of the drive shaft tube at speed

33. A technician removes a differential cover and finds the lubricant is very low and the gears show heat discoloration. The MOST likely cause of the damage is:

- A. The wrong friction modifier additive was used at last service
- B. The backlash between the ring and pinion was set too tight
- C. The carrier bearing preload was set above the specification

D. A lubricant leak ran the axle low and the gears overheated

34. A vehicle has a rear axle seal leaking onto the brake assembly on one side only. The BEST repair is to:

- A. Add lubricant to compensate and monitor the level over time
- B. Replace the leaking axle seal and inspect the bearing and shaft
- C. Replace both rear axle seals and the differential cover gasket
- D. Tighten the differential cover bolts to stop the leak path

35. A technician is setting up a differential and must measure backlash. The proper tool and location is:

- A. A dial indicator on a ring gear tooth, measured at several points
- B. A feeler gauge between the pinion and the carrier bearing
- C. A torque wrench on the pinion nut measured while rotating
- D. A micrometer across the ring gear outside diameter face

36. A drive axle assembly has a howling noise that is present at a steady cruise and on both acceleration and deceleration. The MOST likely cause is:

- A. A bent axle shaft producing a once-per-revolution vibration
- B. A worn pinion seal allowing lubricant to leak at the yoke
- C. The axle vent being plugged and building internal pressure
- D. Worn ring and pinion gears or incorrect gear setup

37. A C-clip style rear axle requires the technician to push the axle shaft inward before the clip can be removed. This is done after:

- A. Removing the brake rotor and the wheel speed sensor wiring

- B. Pressing the wheel bearing off the outer end of the shaft
- C. Disconnecting the parking brake cable from the backing plate
- D. Removing the differential cover and the differential pinion shaft

38. A limited-slip differential is being filled. The technician must add the friction modifier because without it the unit will:

- A. Lose its ability to send any torque to either drive wheel
- B. Chatter or shudder during low-speed turns from clutch grab
- C. Overheat the ring and pinion gears within a few minutes
- D. Allow the axle shafts to slip out of their C-clip retainers

39. A technician suspects worn differential side gears. The BEST way to confirm this is to:

- A. Check axle shaft end play and inspect the gears and thrust washers
- B. Measure the ring gear backlash with a dial indicator only
- C. Check the pinion bearing preload with an inch-pound torque wrench
- D. Inspect the pinion seal for evidence of external lubricant leakage

40. A rear axle makes a rumbling or growling noise that stays constant with vehicle speed and does not change between acceleration and deceleration. The MOST likely cause is:

- A. Worn ring and pinion gear teeth from incorrect backlash
- B. A bent axle shaft causing a once-per-revolution wobble
- C. A worn axle shaft bearing or wheel bearing in the housing
- D. Excessive differential side gear backlash creating a clunk

41. A customer reports that the 4WD indicator light comes on but the vehicle does not actually drive all four wheels. The technician should FIRST

- A. Replace the transfer case shift motor as the likely failed part
- B. Verify actual front axle engagement, not just the dash indicator
- C. Drain and refill the transfer case with the specified fluid
- D. Disassemble the transfer case to inspect the shift fork

42. A part-time 4WD vehicle's transfer case jumps out of four-wheel-drive high range on rough terrain. The MOST likely cause is:

- A. The front locking hubs are not engaging on the front axle
- B. The transfer case fluid is the wrong viscosity for cold weather
- C. The rear driveshaft slip yoke is binding during articulation
- D. A worn shift fork, worn detent, or worn mode collar in the case

43. A 4WD truck with automatic locking hubs will engage 4WD, but the hubs do not disengage when shifting back to 2WD, so the front axle keeps turning. The MOST likely cause is:

- A. Dirty, worn, or damaged automatic locking hubs needing service
- B. A failed transfer case shift motor stuck in the 4WD position
- C. The rear differential carrier bearings worn beyond their limits
- D. A stretched transfer case chain skipping on the sprockets

44. Before testing an AWD vehicle for a driveline noise, the technician should FIRST:

- A. Replace all four tires to eliminate any tire-related cause
- B. Lock the center differential and road-test on dry pavement
- C. Check that all four tires match in size and inflation, and inspect for damage
- D. Disassemble the transfer case to inspect the internal chain

45. A viscous-coupling AWD vehicle shows little rear-axle drive on slippery roads. The technician confirms the center differential is intact. The BEST next step is to:

- A. Replace the front axle disconnect actuator assembly
- B. Inspect or replace the viscous coupling for degraded fluid
- C. Adjust the rear differential ring gear backlash to specification
- D. Add friction modifier to the transfer case lubricant

46. A transfer case is leaking from the front output shaft seal area on a 4WD vehicle. The correct repair is to:

- A. Add fluid regularly and monitor the leak over time
- B. Replace the entire transfer case assembly to be safe
- C. Tighten the front output housing bolts to stop the leak
- D. Replace the front output shaft seal and check the shaft surface

47. A 4WD vehicle's front and rear driveshafts are different lengths and the system is part-time. The driver asks why the vehicle binds when turning in 4WD on dry roads. The BEST explanation is:

- A. A part-time system locks the axles together with no speed difference allowed
- B. The driveshafts being different lengths causes the binding directly
- C. The transfer case fluid is low and is causing internal binding
- D. The front hubs are improperly engaged and dragging the axle

48. A technician must lubricate a slip yoke and U-joints on a 4WD front driveshaft during service. The correct lubricant is:

- A. Engine oil applied lightly to the slip yoke splines only
- B. Automatic transmission fluid wiped onto all the surfaces
- C. Chassis grease of the type specified for the U-joints and slip yoke

D. Gear oil poured over the joints and allowed to drain off

49. A customer drives a part-time 4WD vehicle in 4WD on dry highways regularly and complains of tire wear and handling problems. The BEST advice is to:

A. Use 4WD only on loose or slippery surfaces, not on dry pavement

B. Lock the center differential to reduce the tire scrubbing

C. Lower the tire pressure to reduce the driveline windup forces

D. Have the front driveshaft removed for normal daily driving

50. An AWD vehicle needs a replacement tire, but only one tire is worn out. The BEST practice to protect the AWD system is to:

A. Install one new tire on the worn corner and drive normally

B. Install two new tires on the front axle and rotate later

C. Match all four tires by replacing or shaving to equal rolling diameter

D. Install a smaller spare-type tire on the worn corner permanently

PRACTICE EXAM 10: ANSWER KEY AND EXPLANATIONS

1. B — A clutch pedal that stays on the floor and must be lifted by hand has lost its return assist, pointing to a weak or broken pedal return or over-center spring. The spring normally pulls the pedal back up. Without it, the pedal cannot return on its own.
2. D — A clutch slip is best confirmed under load: in a high gear at low speed, accelerating firmly uphill, engine rpm rises while road speed lags if the clutch slips. Idling or free-revving applies no load and reveals nothing. Loading the clutch exposes the slip.
3. A — Dry input shaft splines should receive a light film of high-temperature grease so the disc slides freely without binding. Too much grease slings onto the friction surface and causes slip, while none risks a sticking disc. A light film is the correct amount.
4. C — A clutch disc installed backward places the hub or springs against the flywheel, so the disc cannot seat flat and the clutch will not release; the transmission also will not install properly. Correct orientation is essential. The backward disc prevents proper seating and release.
5. B — On a cable-operated clutch, a pedal that grows progressively harder over time is caused by a fraying, binding cable inside its housing adding friction. A hydraulic fault cannot apply, since the system uses a cable. The binding cable increases pedal effort.

6. A — Before installing a pressure plate, the technician should confirm the dowel pins are present and align the cover to the flywheel for correct location and balance. Proper alignment prevents vibration and runout. The dowels locate the pressure plate accurately.
7. D — Shudder that occurs only when cold and clears as the clutch warms indicates moisture or surface contamination on the disc that burns off with heat. The friction surface grabs unevenly until it dries. The contamination explains the cold-only shudder.
8. C — Pressure plate bolts are tightened gradually in a crisscross pattern to specification so the cover seats evenly without distorting. Uneven tightening warps the assembly. The staged crisscross sequence ensures flat, balanced clamping.
9. A — Noise present in every gear that tracks vehicle speed, even coasting in neutral while rolling, comes from a bearing turning with road speed such as the output shaft bearing. Input, release, and pilot bearings tie to engine or clutch conditions. The road-speed correlation isolates the output-side bearing.
10. B — Locating a transmission leak begins by cleaning the area, then driving and rechecking so the fresh fluid reveals the actual source. Tearing down or replacing seals first wastes effort. Cleaning and rechecking pinpoints the leak.
11. C — With the synchronizer and engagement teeth confirmed good, a gear that keeps slipping out next points to a worn shift fork, weak detent spring, or worn detent ball failing to hold the rail. These let the gear walk out under load. Inspecting the fork and detent is the logical next step.
12. D — On a non-synchronized reverse that grinds, briefly selecting a forward gear stops the gear rotation, after which reverse engages cleanly. This lets the gears stop spinning without a synchronizer. The forward-gear pause is the correct technique.
13. B — A worn case bore that lets a bearing spin must be repaired with a sleeve or the case replaced, restoring a proper press fit. Thread locker, staking, or forcing an oversized bearing are improper fixes. Sleeving or replacing the case is the correct repair.
14. B — A clunk through the shifter on a quick throttle release, with mounts intact, comes from excessive backlash in the gear train or worn output components taking up slack. The lash engages audibly as torque reverses. The backlash produces the clunk.
15. C — Synchronizer hubs and sleeves have a chamfered or marked side that must face the correct gear for proper shift action; reversing them causes poor or failed engagement. Orientation is critical during reassembly. The marked side must face the right gear.
16. D — Noise confined to third gear that is the same on acceleration and deceleration comes from the third gear teeth or its supporting bearing. Input, release, and pilot bearings would affect more than one gear or tie to clutch conditions. The single-gear noise isolates third gear components.
17. B — A vague shifter with excessive free play and good internals points to worn shift linkage bushings or a worn shifter pivot. The looseness is external to the gearbox. Replacing the worn linkage components restores precise engagement.
18. A — A press-fit bearing is removed from a shaft with a bearing splitter and a press, which pulls it off squarely without damaging the shaft. Chisels, pry bars, or torches risk damage. The splitter and press is the correct tool.
19. C — A small leak and gear oil smell appearing right after service indicate the case was overfilled or a seal or gasket was disturbed during the work. The timing ties the leak to the service. Correcting the fill level or reseating the seal resolves it.
20. D — A half shaft must be supported during removal to keep the inner CV joint from overextending, which can pull the joint apart or damage it. Letting it hang stresses the joint. Supporting the shaft protects the inner joint.

21. A — Reverse that grinds while forward gears shift fine, with the clutch confirmed releasing, points to a worn reverse idler gear or the non-synchronized reverse engagement. Final drive and side bearing faults would affect forward operation too. The reverse idler is the source.
22. B — A growl that rises with speed and changes with turn direction, louder one way and quieter the other, is the classic worn wheel bearing, which loads and unloads as weight shifts in turns. Final drive noise does not change with turning. The turn-direction change identifies the wheel bearing.
23. D — Differential ring gear bolts should be replaced if the manufacturer specifies, and torqued to specification in the proper sequence for secure, even clamping. Reusing or under-torquing risks loosening. Following the spec and sequence ensures correct installation.
24. C — A clunk during hard straight-line acceleration, with no turning click and intact boots, points to a worn inner CV (tripod) joint loaded under driving torque. Outer joints click in turns and wheel bearings growl. The acceleration-only symptom isolates the inner joint.
25. A — After a half shaft replacement, the hub nut must be torqued to specification and properly retained with a cotter pin or stake, since it sets the bearing relationship and secures the shaft. Improper torque damages the bearing. Verifying the hub nut is the key step.
26. B — A leak appearing only when parked on an incline indicates an overfilled transaxle, where the tilt lets fluid reach and pass the axle seal. Level ground keeps the fluid below the seal. The overfill explains the incline-only leak.
27. C — U-joint wear is checked by gripping the drive shaft and attempting to rotate and rock the joint, feeling for play in the bearing caps. Spinning, revving, or measuring length does not reveal joint wear. The rock-and-rotate test exposes the play.
28. A — A serviceable U-joint fitting that will not accept grease indicates the bearings are seized or rusted, and the joint needs replacement. A healthy joint takes grease readily. The refusal to grease signals internal failure.
29. D — A two-piece drive shaft that rumbles and worsens with speed, with good U-joints and balance, points to a worn center support bearing. The bearing noise rises with shaft speed. Replacing the support bearing resolves the rumble.
30. B — Index-marking the drive shaft to the pinion flange preserves the factory balance and phasing when the shaft is reinstalled. Reassembling out of position introduces vibration. The mark maintains the original balance.
31. C — With the joint still quiet, a failed boot clamp is repaired by cleaning the joint, repacking it with the correct grease, and installing a new boot and clamp. The joint does not need replacement if undamaged. Cleaning, repacking, and rebooting is the proper repair.
32. A — Hose clamps are used on a drive shaft to locate the heavy spot by repositioning weight around the tube during balancing. Moving the clamp changes the balance until vibration is minimized. They serve as an adjustable diagnostic weight.
33. D — Very low lubricant combined with heat-discolored gears indicates a leak ran the axle low, and the gears overheated from inadequate lubrication. The low level is the root of the damage. Finding and fixing the leak prevents recurrence.
34. B — A one-sided axle seal leak onto the brakes is repaired by replacing that seal and inspecting the bearing and shaft for the cause of the failure. Adding fluid or tightening the cover does not address it. Replacing the seal and inspecting the cause is correct.
35. A — Backlash is measured with a dial indicator placed against a ring gear tooth and read at several points around the gear. This shows the play between the ring and pinion. The dial indicator at the tooth is the proper method.

36. D — A howl present at steady cruise and on both acceleration and deceleration indicates worn ring and pinion gears or an incorrect gear setup, since it occurs across all load conditions. A bent shaft, seal, or vent would present differently. The all-condition howl points to the ring and pinion.
37. D — A C-clip axle can be pushed inward to release its clip only after the differential cover and the differential pinion shaft are removed to gain access. The clip sits inside the carrier. Removing the cover and pinion shaft is the required first step.
38. B — A limited-slip differential requires friction modifier in the gear oil; without it the clutch packs grab and the unit chatters or shudders during low-speed turns. The additive allows smooth clutch slip. Omitting it causes the cornering chatter.
39. A — Worn differential side gears are confirmed by checking axle shaft end play and inspecting the side gears and thrust washers for wear. Excess end play reveals the wear. Measuring play and inspecting the gears is the correct method.
40. C — A rumble or growl that stays constant with vehicle speed and does not change with acceleration or deceleration indicates a worn axle shaft or wheel bearing. Ring and pinion noise changes between drive and coast. The steady, load-independent growl points to a bearing.
41. B — When the 4WD light is on but the vehicle does not drive all four wheels, the technician should first verify actual front axle engagement rather than trusting the dash indicator. The light only shows a commanded state. Confirming real engagement directs the diagnosis.
42. D — A transfer case that jumps out of high range on rough terrain has a worn shift fork, detent, or mode collar that cannot hold engagement against load and motion. Hubs, fluid, or slip yokes present differently. The worn engagement parts cause the range slipout.
43. A — Automatic locking hubs that engage but will not release, leaving the front axle turning in 2WD, are dirty, worn, or damaged and need service. The hubs control wheel-to-shaft coupling. Servicing the hubs restores proper disengagement.
44. C — AWD driveline noise diagnosis begins by confirming all four tires match in size and inflation and inspecting them for damage, since mismatched tires stress and noise the driveline. This rules out a common cause first. Checking the tires is the correct first step.
45. B — With the center differential confirmed intact, an AWD system delivering little rear drive on slippery roads has a viscous coupling that should be inspected or replaced for degraded fluid. The coupling provides the torque transfer. Servicing it addresses the loss of rear drive.
46. D — A front output seal leak is repaired by replacing the seal and checking the shaft surface for grooves or damage that could ruin a new seal. Adding fluid or tightening bolts does not fix the seal. Replacing the seal and inspecting the shaft is correct.
47. A — A part-time system locks the front and rear axles together with no allowance for speed difference, so turning on dry pavement causes binding. The lack of a center differential is the reason. Explaining the locked-axle design answers the driver's question.
48. C — A slip yoke and U-joints on a 4WD front driveshaft are lubricated with the specified chassis grease, which withstands the loads and temperatures involved. Engine oil, transmission fluid, or gear oil are not suitable. The correct chassis grease is the proper lubricant.
49. A — A part-time 4WD vehicle should be used in four-wheel drive only on loose or slippery surfaces, not on dry pavement, to avoid driveline windup, tire wear, and handling problems. Locking devices or low pressure do not solve it. Limiting 4WD to low-traction surfaces is the correct advice.
50. C — Protecting an AWD system when only one tire is worn requires matching all four tires by replacing them or shaving the new ones to equal rolling diameter. A single mismatched tire stresses the coupling. Equalizing all four diameters preserves the system.