

PRACTICE EXAM 7: A3 SIMULATION

— MANUAL DRIVE TRAIN AND AXLES

1. A vehicle has been brought in with the following findings: complaint of clutch chatter, oil-contaminated friction disc, oil leak from the rear of the engine, worn clutch release bearing, and worn pilot bearing. The MOST appropriate action is to:

- A. Replace the rear main seal, replace all worn clutch components (friction disc, pressure plate, release bearing, pilot bearing), and verify proper installation
- B. Replace only the friction disc as the most direct repair
- C. Replace the clutch master cylinder as a precursor to other repairs
- D. Apply additional clamping pressure to compensate

2. Technician A says a complete clutch service should include flywheel resurfacing or replacement, friction disc replacement, pressure plate replacement, release bearing replacement, and pilot bearing replacement. Technician B says only the failed component should be replaced. Who is correct?

- A. Technician B only
- B. Both Technician A and Technician B
- C. Neither Technician A nor Technician B
- D. Technician A only

3. The proper procedure for verifying a clutch service has been completed correctly is to:

- A. Replace the transmission as a precautionary measure

B. Verify pedal free play, perform a road test under varied conditions, verify proper engagement and disengagement, and verify no unusual noise or vibration

C. Apply compressed air to the hydraulic system

D. Replace the transmission fluid as the only required step

4. A vehicle equipped with a manual transmission has been brought in with the following findings: complaint of multiple shift quality issues, transmission fluid that appears dark with metallic particles, worn synchronizer cones visible during disassembly, and worn shift forks. The MOST appropriate action is to:

A. Replace only the synchronizer cones as the most direct repair

B. Replace only the shift forks as the most direct repair

C. Replace the transmission fluid as the only required step

D. Perform a complete transmission overhaul including replacement of all worn components, refilling with the correct fluid, and verification of proper operation

5. The proper procedure for verifying a manual transmission overhaul has been completed correctly is to:

A. Replace the clutch assembly as a precautionary measure

B. Apply compressed air to the transmission

C. Verify all fasteners are torqued to specification, perform a road test through all gears in both directions, verify proper shift quality, and verify no unusual noise or vibration

D. Replace the transmission fluid as the only required step

6. A vehicle has been brought in with a complaint of vibration that increases with vehicle speed. The technician finds the following: worn universal joints, improper driveline angles, and worn motor mounts. The MOST appropriate action is to:

A. Replace all worn driveline components, correct the driveline angles to specification, and replace the worn motor mounts to restore proper driveline geometry and operation

- B. Replace only the universal joints as the most direct repair
- C. Apply compressed air to the driveline
- D. Replace the transmission fluid as the only required step

7. Technician A says correcting driveline angles requires shimming the rear axle, the transmission mount, or the transfer case mount. Technician B says driveline angle correction is achieved only through replacing the driveshaft. Who is correct?

- A. Technician B only
- B. Both Technician A and Technician B
- C. Neither Technician A nor Technician B
- D. Technician A only

8. The proper procedure for verifying driveline service has been completed correctly is to:

- A. Replace the transmission as a precautionary measure
- B. Verify driveshaft balance, verify driveline angles, perform a road test through varied speeds, and verify no vibration or noise
- C. Apply compressed air to the driveline
- D. Replace the transmission fluid as the only required step

9. A vehicle has been brought in with a complaint of intermittent CV joint clicking during cornering. The technician finds: damaged CV joint boot, contamination in the joint, worn outer CV joint, and worn inner CV joint. The MOST appropriate action is to:

- A. Replace only the outer CV joint as the most direct repair
- B. Replace only the boots as the most direct repair
- C. Replace the entire halfshaft (or both CV joints with new boots and grease) since contamination has likely damaged both joints

D. Apply additional grease to compensate

10. The proper procedure for verifying CV joint service has been completed correctly is to:

A. Replace the transmission as a precautionary measure

B. Apply compressed air to the joint

C. Replace the transmission fluid as the only required step

D. Verify boot installation, verify proper grease packing, perform cornering tests for clicking, perform acceleration tests for vibration, and verify no boot damage or grease loss

11. A vehicle has been brought in with the following findings: complaint of grinding noise from the rear axle, worn pinion bearings, worn carrier bearings, ring gear pitting on tooth surfaces, and contaminated differential fluid. The MOST appropriate action is to:

A. Perform a complete drive axle overhaul including replacement of all worn bearings, the ring and pinion gear set, all seals, and refilling with the correct fluid

B. Replace only the ring and pinion as the most direct repair

C. Replace only the bearings as the most direct repair

D. Replace the differential fluid as the only required step

12. Technician A says drive axle overhaul should include verification of pinion preload, carrier bearing preload, ring gear backlash, and contact pattern after assembly. Technician B says drive axle overhaul is complete once new components are installed. Who is correct?

A. Technician B only

B. Technician A only

C. Both Technician A and Technician B

D. Neither Technician A nor Technician B

13. The proper procedure for verifying a drive axle overhaul has been completed correctly is to:

- A. Replace the transmission as a precautionary measure
- B. Apply compressed air to the differential
- C. Verify pinion preload, carrier preload, backlash, and contact pattern, fill with correct fluid, perform a careful initial start, and verify no leaks or noise during a road test
- D. Replace the transmission fluid as the only required step

14. A vehicle equipped with a transfer case has been brought in with the following findings: complaint of grinding during 4WD operation, worn transfer case chain, worn chain sprockets, contaminated transfer case fluid, and stored DTCs for shift mode sensors. The MOST appropriate action is to:

- A. Perform a complete transfer case overhaul including chain and sprocket replacement, fluid replacement, sensor replacement if needed, and verification of proper operation
- B. Replace only the chain and sprockets as the most direct repair
- C. Apply compressed air to the transfer case
- D. Replace the transmission fluid as the only required step

15. The proper procedure for verifying a transfer case overhaul has been completed correctly is to:

- A. Replace the transmission as a precautionary measure
- B. Apply compressed air to the transfer case
- C. Replace the transmission fluid as the only required step
- D. Verify proper assembly, fill with correct fluid, perform a careful initial start, verify proper operation in all modes through a road test, and clear any stored DTCs

16. A vehicle equipped with a Haldex-type AWD coupling has been brought in with the following findings: complaint of intermittent loss of AWD function, contaminated coupling fluid, worn clutch pack, and stored DTC for AWD coupling circuit. The MOST appropriate action is to:

- A. Apply compressed air to the coupling
- B. Replace the AWD coupling assembly (or perform the manufacturer's specified overhaul if applicable), refill with the correct coupling fluid, clear stored DTCs, and verify proper operation
- C. Replace only the AWD module as a precursor to other repairs
- D. Replace the transmission fluid as the only required step

17. The proper procedure for verifying AWD service has been completed correctly is to:

- A. Replace the transmission as a precautionary measure
- B. Apply compressed air to the AWD coupling
- C. Verify proper component installation, perform a careful initial start, verify proper AWD operation through a road test that exercises front-rear speed differential, and clear any stored DTCs
- D. Replace the transmission fluid as the only required step

18. A vehicle has been brought in with a complaint of intermittent shift quality issues on a manual transmission. The technician finds the following: worn synchronizer for the affected gear, low transmission fluid level, contaminated transmission fluid with metallic particles, and worn shift fork for the affected gear. The MOST appropriate action is to:

- A. Address all findings: replace the worn synchronizer, replace the worn shift fork, refill the transmission to the correct level with fresh fluid, and verify proper operation
- B. Replace only the synchronizer as the most direct repair
- C. Apply compressed air to the transmission
- D. Replace the transmission fluid as the only required step

19. The proper procedure for diagnosing a complaint that includes multiple symptoms across multiple drivetrain domains is to:

- A. Replace each affected component individually
- B. Replace the transmission as a precautionary measure
- C. Apply compressed air to the drivetrain
- D. Verify each customer concern through testing, identify the underlying cause for each, address each cause systematically, and verify proper operation after all repairs

20. Technician A says a complete drivetrain inspection should be performed when multiple symptoms are present, since multiple worn components often coexist. Technician B says only the specific symptom should be addressed. Who is correct?

- A. Technician B only
- B. Technician A only
- C. Both Technician A and Technician B
- D. Neither Technician A nor Technician B

21. A vehicle has been brought in with a complaint that occurs only after extended highway driving. The technician finds the following: gear whine that increases as the rear axle reaches operating temperature, worn pinion bearings, and improper pinion preload. The MOST appropriate action is to:

- A. Apply compressed air to the differential
- B. Replace only the pinion bearings as the most direct repair
- C. Replace the worn pinion bearings, set proper pinion preload to specification, verify the bearing operation under operating temperature, and verify the gear whine is resolved
- D. Replace the transmission fluid as the only required step

22. The proper procedure for verifying drive axle operation under operating conditions is to:

- A. Replace the differential as a precautionary measure
- B. Apply compressed air to the differential
- C. Replace the transmission fluid as the only required step
- D. Perform a road test through varied speeds and conditions, including extended highway driving, and verify the differential operates correctly at operating temperature

23. A vehicle equipped with a manual transmission has been brought in with the following findings: complaint of clutch chatter, worn friction disc, worn pressure plate, worn release bearing, and worn pilot bearing. The MOST appropriate action is to:

- A. Perform a complete clutch service including flywheel inspection (resurface or replace as needed), friction disc replacement, pressure plate replacement, release bearing replacement, and pilot bearing replacement
- B. Replace only the friction disc as the most direct repair
- C. Apply compressed air to the clutch
- D. Replace the transmission fluid as the only required step

24. The proper procedure for performing a clutch service that includes flywheel inspection is to:

- A. Replace the flywheel as a precautionary measure
- B. Inspect the flywheel for cracks, hot spots, warpage, and proper ring gear condition, and resurface within specification or replace if material removal would exceed limits
- C. Apply compressed air to the flywheel
- D. Visually inspect for visible damage only

25. Technician A says clutch chatter is most commonly caused by friction disc contamination from rear main seal failure. Technician B says clutch chatter can be caused by worn flywheel surface or improper installation in addition to disc contamination. Who is correct?

- A. Technician A only
- B. Technician B only
- C. Both Technician A and Technician B
- D. Neither Technician A nor Technician B

26. The proper procedure for diagnosing a complaint that may originate in clutch, transmission, or driveline is to:

- A. Replace each suspected component individually
- B. Replace the transmission as a precautionary measure
- C. Apply compressed air to the drivetrain
- D. Identify the noise or symptom characteristics, determine the conditions under which it occurs, and systematically isolate the source through diagnostic testing before any component replacement

27. A vehicle equipped with a transfer case has been brought in with a complaint that the transfer case will not shift between modes. The technician finds the following: failed transfer case shift motor, worn shift mechanism inside the transfer case, and stored DTCs for shift solenoid circuit. The MOST appropriate action is to:

- A. Replace the failed shift motor, repair or replace the worn shift mechanism, clear stored DTCs, and verify proper shift operation in all modes through a road test
- B. Replace only the shift motor as the most direct repair
- C. Apply compressed air to the transfer case
- D. Replace the transmission fluid as the only required step

28. The proper procedure for verifying transfer case shift operation after service is to:

- A. Replace the transfer case as a precautionary measure
- B. Apply compressed air to the transfer case
- C. Verify shift commands through scan tool data, observe shift completion, perform a road test through all available modes, and clear any stored DTCs
- D. Replace the transmission fluid as the only required step

29. A vehicle equipped with a viscous coupling AWD system has been brought in with the following findings: complaint of intermittent loss of AWD function, contaminated viscous coupling fluid (visible debris), and stored DTCs for AWD coupling circuit. The MOST appropriate action is to:

- A. Drain the coupling and refill with new fluid
- B. Replace the viscous coupling as a complete assembly, since contaminated fluid indicates internal wear and the coupling cannot be serviced internally, then clear stored DTCs and verify proper operation
- C. Apply additional fluid to dilute the contamination
- D. Replace the transmission fluid as the only required step

30. The proper procedure for verifying viscous coupling AWD operation is to:

- A. Replace the AWD coupling as a precautionary measure
- B. Apply compressed air to the coupling
- C. Replace the transmission fluid as the only required step
- D. Perform a road test that exercises front-rear speed differential, observe coupling response, verify proper torque distribution, and clear any stored DTCs

31. A vehicle has been brought in with the following findings: complaint of grinding noise from the front axle on a 4WD vehicle, worn front axle ring and pinion, worn front axle bearings, and contaminated front axle fluid. The MOST appropriate action is to:

- A. Apply compressed air to the front axle
- B. Perform a complete front axle overhaul including ring and pinion replacement, bearing replacement, fluid replacement, and verification of proper operation
- C. Replace only the front axle bearings as the most direct repair
- D. Replace the transmission fluid as the only required step

32. The proper procedure for verifying front axle overhaul has been completed correctly is to:

- A. Verify pinion preload, carrier preload, backlash, and contact pattern, fill with the correct fluid, and verify proper operation in 2WD and 4WD modes through a road test
- B. Apply compressed air to the front axle
- C. Replace the transmission as a precautionary measure
- D. Replace the transmission fluid as the only required step

33. A vehicle equipped with an electronically locking differential has been brought in with the following findings: complaint that the lock fails to engage when commanded, failed lock motor, worn lock collar, and stored DTC for differential lock motor circuit. The MOST appropriate action is to:

- A. Apply compressed air to the differential
- B. Replace only the lock motor as the most direct repair
- C. Replace the failed lock motor, replace the worn lock collar, clear stored DTCs, and verify proper lock engagement through a road test
- D. Replace the transmission fluid as the only required step

34. The proper procedure for verifying electronically locking differential operation is to:

- A. Replace the differential as a precautionary measure
- B. Apply compressed air to the differential
- C. Replace the transmission fluid as the only required step
- D. Verify the lock command through scan tool data, verify lock motor operation, observe lock engagement, perform a road test that exercises locked operation, and clear any stored DTCs

35. A vehicle has been brought in with a complaint of intermittent vibration that occurs only at specific operating conditions. The technician finds the following: worn universal joints, improper driveline angles, worn driveshaft slip yoke spline, and worn motor mounts. The MOST appropriate action is to:

- A. Apply compressed air to the driveline
- B. Address all findings: replace the worn universal joints, correct the driveline angles, replace the worn slip yoke or driveshaft, replace the worn motor mounts, and verify proper operation
- C. Replace only the universal joints as the most direct repair
- D. Replace the transmission fluid as the only required step

36. The proper procedure for verifying complete driveline service has been completed correctly is to:

- A. Verify driveshaft balance, verify driveline angles, verify proper component installation, perform a road test through varied conditions, and verify no vibration, noise, or operational issues
- B. Apply compressed air to the driveline
- C. Replace the transmission as a precautionary measure
- D. Replace the transmission fluid as the only required step

37. A vehicle has been brought in with a complaint of complete loss of all forward drive. The technician finds the following: complete loss of clutch hydraulic fluid, severely worn clutch components, and damage to the flywheel friction surface. The MOST appropriate action is to:

- A. Apply compressed air to the hydraulic system
- B. Replace only the clutch friction disc as the most direct repair
- C. Identify and repair the source of the hydraulic fluid loss, replace all worn clutch components, resurface or replace the flywheel, refill the hydraulic system, and verify proper operation
- D. Replace the transmission fluid as the only required step

38. The proper procedure for diagnosing a complete drivetrain failure is to:

- A. Replace each suspected component individually
- B. Replace the transmission as a precautionary measure
- C. Verify the customer concern, identify all failed components through systematic inspection, identify the underlying cause of each failure, address each cause comprehensively, and verify proper operation after all repairs
- D. Apply compressed air to the drivetrain

39. A vehicle equipped with a manual transmission and 4WD has been brought in with the following findings: complaint of multiple drivetrain symptoms, worn clutch components, contaminated manual transmission fluid with metallic particles, contaminated transfer case fluid with metallic particles, and contaminated front and rear differential fluids with metallic particles. The MOST appropriate action is to:

- A. Perform a comprehensive drivetrain inspection, address each component requiring service, replace fluids in each affected component, and verify proper operation through a comprehensive road test
- B. Replace only the clutch as the most direct repair
- C. Apply compressed air to the drivetrain
- D. Replace only the transmission fluid as the only required step

40. The proper procedure for verifying a complete drivetrain service has been completed correctly is to:

- A. Replace the transmission as a precautionary measure
- B. Verify proper assembly of all repaired components, verify all fluids are at the correct level with the correct specification, perform a road test through varied conditions and modes, verify no leaks, noise, or vibration, and clear any stored DTCs
- C. Apply compressed air to the drivetrain
- D. Replace the transmission fluid as the only required step

PRACTICE EXAM 7: A3 SIMULATION

— ANSWER KEY, EXPLANATIONS, AND TASK REMEDIATION

1. A — Replace the rear main seal, replace all worn clutch components (friction disc, pressure plate, release bearing, pilot bearing), and verify proper installation. Multiple findings require comprehensive repair: source of contamination (rear main seal), all damaged clutch components, and verification. Single-component replacement leaves the source of failure unaddressed. *ASE Task Reference: A3 Domain A — Clutch Diagnosis and Repair. Review subsection 3.1.*
2. D — Technician A only. A complete clutch service includes flywheel, friction disc, pressure plate, release bearing, and pilot bearing because these components wear together as a system. Replacing only the failed component leaves other worn components that will fail soon, leading to repeat service. *ASE Task Reference: A3 Domain A — Clutch Diagnosis and Repair. Review subsection 3.1.*
3. B — Verify pedal free play, perform a road test under varied conditions, verify proper engagement and disengagement, and verify no unusual noise or vibration. Clutch service verification requires multiple checks under operating conditions. Each verification confirms a different aspect of proper service. *ASE Task Reference: A3 Domain A — Clutch Diagnosis and Repair. Review subsection 3.1.*
4. D — Perform a complete transmission overhaul including replacement of all worn components, refilling with the correct fluid, and verification of proper operation. Multiple findings indicating multiple worn components require complete overhaul. Partial repair leaves other worn components that will fail soon, requiring additional service. *ASE Task Reference: A3 Domain B — Transmission Diagnosis and Repair. Review subsection 3.2.*
5. C — Verify all fasteners are torqued to specification, perform a road test through all gears in both directions, verify proper shift quality, and verify no unusual noise or vibration. Manual transmission overhaul verification requires comprehensive verification through road test in all gears. Each gear must operate correctly for the overhaul to be considered complete. *ASE Task Reference: A3 Domain B — Transmission Diagnosis and Repair. Review subsection 3.2.*
6. A — Replace all worn driveline components, correct the driveline angles to specification, and replace the worn motor mounts to restore proper driveline geometry and operation. Multiple driveline findings require comprehensive repair to restore proper geometry. Each component

contributes to driveline operation; partial repair leaves issues unresolved. *ASE Task Reference: A3 Domain C — Driveshaft and Universal Joint/CV Joint Diagnosis and Repair. Review subsection 3.3.*

7. D — Technician A only. Driveline angle correction is achieved through shimming the rear axle, transmission mount, or transfer case mount. Driveshaft replacement does not correct driveline angles; the angles depend on the relative position of the connected components. *ASE Task Reference: A3 Domain C — Driveshaft and Universal Joint/CV Joint Diagnosis and Repair. Review subsection 3.3.*
8. B — Verify driveshaft balance, verify driveline angles, perform a road test through varied speeds, and verify no vibration or noise. Driveline service verification requires balance, angle, and operational verification. Each check confirms a different aspect of proper service. *ASE Task Reference: A3 Domain C — Driveshaft and Universal Joint/CV Joint Diagnosis and Repair. Review subsection 3.3.*
9. C — Replace the entire halfshaft (or both CV joints with new boots and grease) since contamination has likely damaged both joints. Multiple CV joint findings indicate contamination has affected both joints. Complete halfshaft replacement or both-joint service is required to address the underlying contamination damage. *ASE Task Reference: A3 Domain C — Driveshaft and Universal Joint/CV Joint Diagnosis and Repair. Review subsection 3.3.*
10. D — Verify boot installation, verify proper grease packing, perform cornering tests for clicking, perform acceleration tests for vibration, and verify no boot damage or grease loss. CV joint service verification requires multiple tests under operating conditions. Each test reveals a different aspect of joint operation. *ASE Task Reference: A3 Domain C — Driveshaft and Universal Joint/CV Joint Diagnosis and Repair. Review subsection 3.3.*
11. A — Perform a complete drive axle overhaul including replacement of all worn bearings, the ring and pinion gear set, all seals, and refilling with the correct fluid. Multiple drive axle findings require complete overhaul. Each component is part of the system; partial repair leaves other worn components that will fail. *ASE Task Reference: A3 Domain D — Drive Axle Diagnosis and Repair. Review subsection 3.4.*
12. B — Technician A only. Drive axle overhaul verification requires pinion preload, carrier preload, backlash, and contact pattern verification. Without these verifications, the overhaul cannot be confirmed as proper, and post-installation issues are likely. *ASE Task Reference: A3 Domain D — Drive Axle Diagnosis and Repair. Review subsection 3.4.*
13. C — Verify pinion preload, carrier preload, backlash, and contact pattern, fill with correct fluid, perform a careful initial start, and verify no leaks or noise during a road test. Drive axle overhaul verification requires comprehensive checks of all setup specifications, proper fluid, careful initial start, and operational verification. *ASE Task Reference: A3 Domain D — Drive Axle Diagnosis and Repair. Review subsection 3.4.*

14. A — Perform a complete transfer case overhaul including chain and sprocket replacement, fluid replacement, sensor replacement if needed, and verification of proper operation. Multiple transfer case findings require complete overhaul. Each component is part of the system; partial repair leaves other issues unresolved. *ASE Task Reference: A3 Domain E — Four-Wheel Drive/All-Wheel Drive Component Diagnosis and Repair. Review subsection 3.5.*
15. D — Verify proper assembly, fill with correct fluid, perform a careful initial start, verify proper operation in all modes through a road test, and clear any stored DTCs. Transfer case overhaul verification requires assembly verification, proper fluid, careful initial start, mode verification, and DTC clearing. Each step is required for proper post-service operation. *ASE Task Reference: A3 Domain E — Four-Wheel Drive/All-Wheel Drive Component Diagnosis and Repair. Review subsection 3.5.*
16. B — Replace the AWD coupling assembly (or perform the manufacturer's specified overhaul if applicable), refill with the correct coupling fluid, clear stored DTCs, and verify proper operation. Multiple Haldex findings require coupling replacement (or specified overhaul) including fluid replacement and DTC clearing. The contaminated fluid and worn clutch pack indicate internal damage. *ASE Task Reference: A3 Domain E — Four-Wheel Drive/All-Wheel Drive Component Diagnosis and Repair. Review subsection 3.5.*
17. C — Verify proper component installation, perform a careful initial start, verify proper AWD operation through a road test that exercises front-rear speed differential, and clear any stored DTCs. AWD service verification requires comprehensive approach including installation verification, careful initial start, road test, and DTC clearing. *ASE Task Reference: A3 Domain E — Four-Wheel Drive/All-Wheel Drive Component Diagnosis and Repair. Review subsection 3.5.*
18. A — Address all findings: replace the worn synchronizer, replace the worn shift fork, refill the transmission to the correct level with fresh fluid, and verify proper operation. Multiple findings require comprehensive repair. Each cause must be addressed for proper repair completion. *ASE Task Reference: A3 Domain B — Transmission Diagnosis and Repair. Review subsection 3.2.*
19. D — Verify each customer concern through testing, identify the underlying cause for each, address each cause systematically, and verify proper operation after all repairs. Multi-symptom complaints across multiple domains require systematic approach: verify each concern, identify each cause, address each cause, and verify proper operation. Random parts replacement is not adequate. *ASE Task Reference: A3 Domain A — General Diagnosis. Review subsection 3.0.*
20. B — Technician A only. A complete drivetrain inspection should be performed when multiple symptoms are present because multiple worn components often coexist. Component wear typically progresses together; addressing only one component leaves others that will fail soon. *ASE Task Reference: A3 Domain A — General Diagnosis. Review subsection 3.0.*
21. C — Replace the worn pinion bearings, set proper pinion preload to specification, verify the bearing operation under operating temperature, and verify the gear whine is resolved. Pinion

bearing wear with improper preload requires bearing replacement and proper preload setup. Verification under operating temperature is essential because the gear whine is temperature-related. *ASE Task Reference: A3 Domain D — Drive Axle Diagnosis and Repair. Review subsection 3.4.*

22. D — Perform a road test through varied speeds and conditions, including extended highway driving, and verify the differential operates correctly at operating temperature. Drive axle operation verification under operating conditions requires extended road testing that brings the differential to operating temperature. Symptoms that occur only at operating temperature must be verified at that temperature. *ASE Task Reference: A3 Domain D — Drive Axle Diagnosis and Repair. Review subsection 3.4.*
23. A — Perform a complete clutch service including flywheel inspection (resurface or replace as needed), friction disc replacement, pressure plate replacement, release bearing replacement, and pilot bearing replacement. Multiple clutch findings require complete clutch service. Each component is part of the system; partial repair leaves other worn components that will fail. *ASE Task Reference: A3 Domain A — Clutch Diagnosis and Repair. Review subsection 3.1.*
24. B — Inspect the flywheel for cracks, hot spots, warpage, and proper ring gear condition, and resurface within specification or replace if material removal would exceed limits. Flywheel inspection during clutch service requires multiple checks. Each finding determines whether resurfacing is adequate or replacement is required. *ASE Task Reference: A3 Domain A — Clutch Diagnosis and Repair. Review subsection 3.1.*
25. C — Both Technician A and Technician B. Clutch chatter can be caused by friction disc contamination from rear main seal failure (most common cause) AND by worn flywheel surface or improper installation in addition to disc contamination. Both observations describe accurate causes of clutch chatter. *ASE Task Reference: A3 Domain A — Clutch Diagnosis and Repair. Review subsection 3.1.*
26. D — Identify the noise or symptom characteristics, determine the conditions under which it occurs, and systematically isolate the source through diagnostic testing before any component replacement. Multi-system diagnosis requires systematic approach: identify symptom characteristics, identify operating conditions, and isolate the source through testing. Random parts replacement is not adequate. *ASE Task Reference: A3 Domain A — General Diagnosis. Review subsection 3.0.*
27. A — Replace the failed shift motor, repair or replace the worn shift mechanism, clear stored DTCs, and verify proper shift operation in all modes through a road test. Multiple transfer case findings require comprehensive repair: shift motor replacement, mechanism repair, DTC clearing, and operational verification. Each cause must be addressed. *ASE Task Reference: A3 Domain E — Four-Wheel Drive/All-Wheel Drive Component Diagnosis and Repair. Review subsection 3.5.*

28. C — Verify shift commands through scan tool data, observe shift completion, perform a road test through all available modes, and clear any stored DTCs. Transfer case shift operation verification requires scan tool monitoring, shift completion observation, road test through all modes, and DTC clearing. Each step is required for proper service verification. *ASE Task Reference: A3 Domain E — Four-Wheel Drive/All-Wheel Drive Component Diagnosis and Repair. Review subsection 3.5.*
29. B — Replace the viscous coupling as a complete assembly, since contaminated fluid indicates internal wear and the coupling cannot be serviced internally, then clear stored DTCs and verify proper operation. Viscous couplings are sealed assemblies that cannot be serviced internally. Contaminated fluid with debris indicates internal wear that requires complete coupling replacement. *ASE Task Reference: A3 Domain E — Four-Wheel Drive/All-Wheel Drive Component Diagnosis and Repair. Review subsection 3.5.*
30. D — Perform a road test that exercises front-rear speed differential, observe coupling response, verify proper torque distribution, and clear any stored DTCs. Viscous coupling operation verification requires real-world testing through road test conditions that exercise the coupling. Coupling response and torque distribution must be verified. *ASE Task Reference: A3 Domain E — Four-Wheel Drive/All-Wheel Drive Component Diagnosis and Repair. Review subsection 3.5.*
31. B — Perform a complete front axle overhaul including ring and pinion replacement, bearing replacement, fluid replacement, and verification of proper operation. Multiple front axle findings require complete overhaul. Each component is part of the system; partial repair leaves other worn components that will fail. *ASE Task Reference: A3 Domain D — Drive Axle Diagnosis and Repair. Review subsection 3.4.*
32. A — Verify pinion preload, carrier preload, backlash, and contact pattern, fill with the correct fluid, and verify proper operation in 2WD and 4WD modes through a road test. Front axle overhaul verification requires comprehensive checks of all setup specifications and operational verification in both 2WD and 4WD modes. *ASE Task Reference: A3 Domain D — Drive Axle Diagnosis and Repair. Review subsection 3.4.*
33. C — Replace the failed lock motor, replace the worn lock collar, clear stored DTCs, and verify proper lock engagement through a road test. Multiple locking differential findings require comprehensive repair: motor replacement, collar replacement, DTC clearing, and operational verification. *ASE Task Reference: A3 Domain E — Four-Wheel Drive/All-Wheel Drive Component Diagnosis and Repair. Review subsection 3.5.*
34. D — Verify the lock command through scan tool data, verify lock motor operation, observe lock engagement, perform a road test that exercises locked operation, and clear any stored DTCs. Locking differential verification requires scan tool monitoring, motor verification, engagement observation, road test, and DTC clearing. Each step addresses different aspects of lock system operation. *ASE Task Reference: A3 Domain E — Four-Wheel Drive/All-Wheel Drive Component Diagnosis and Repair. Review subsection 3.5.*

35. B — Address all findings: replace the worn universal joints, correct the driveline angles, replace the worn slip yoke or driveshaft, replace the worn motor mounts, and verify proper operation. Multiple driveline findings require comprehensive repair to restore proper geometry and operation. Each component contributes to driveline operation. *ASE Task Reference: A3 Domain C — Driveshaft and Universal Joint/CV Joint Diagnosis and Repair. Review subsection 3.3.*
36. A — Verify driveshaft balance, verify driveline angles, verify proper component installation, perform a road test through varied conditions, and verify no vibration, noise, or operational issues. Complete driveline service verification requires comprehensive approach including balance, angles, installation, road test, and operational verification. *ASE Task Reference: A3 Domain C — Driveshaft and Universal Joint/CV Joint Diagnosis and Repair. Review subsection 3.3.*
37. C — Identify and repair the source of the hydraulic fluid loss, replace all worn clutch components, resurface or replace the flywheel, refill the hydraulic system, and verify proper operation. Complete loss of forward drive with multiple findings requires comprehensive repair: address the source of fluid loss, replace all damaged components, refill, and verify operation. *ASE Task Reference: A3 Domain A — Clutch Diagnosis and Repair. Review subsection 3.1.*
38. C — Verify the customer concern, identify all failed components through systematic inspection, identify the underlying cause of each failure, address each cause comprehensively, and verify proper operation after all repairs. Complete drivetrain failure diagnosis requires systematic comprehensive approach. Each step addresses different aspects of complete failure diagnosis. *ASE Task Reference: A3 Domain A — General Diagnosis. Review subsection 3.0.*
39. A — Perform a comprehensive drivetrain inspection, address each component requiring service, replace fluids in each affected component, and verify proper operation through a comprehensive road test. Multiple drivetrain findings across multiple domains require comprehensive approach. Each affected component must be addressed; each fluid must be replaced; comprehensive operational verification is essential. *ASE Task Reference: A3 Domain A — General Diagnosis. Review subsection 3.0.*
40. B — Verify proper assembly of all repaired components, verify all fluids are at the correct level with the correct specification, perform a road test through varied conditions and modes, verify no leaks, noise, or vibration, and clear any stored DTCs. Complete drivetrain service verification requires comprehensive approach including assembly verification, fluid verification, road test, operational verification, and DTC clearing. *ASE Task Reference: A3 Domain A — General Diagnosis. Review subsection 3.0.*