ASE T3 Drivetrain Exam Prep

Free Practice Test — 30 Real Exam-Style Questions

with full answer key & explanations

Practice Questions

Try all 30 first, then check the answer key at the back.

1. A truck operator reports a clunk noise when accelerating from a stop. Technician A says to inspect the U-joints for excessive wear. Technician B says to check for loose driveshaft yokes. Who is right?

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

2. When inspecting a driveshaft with two-piece construction, what component should be checked for bearing wear?

A. Output shaft pilot bearing
B. Differential input bearing
C. Center support bearing
D. Input yoke bearing

3. A truck has a vibration that increases with road speed. Technician A says an out-of-balance driveshaft could be the cause. Technician B says incorrect driveshaft phasing could be the cause. Who is right?

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

4. Which tool is most appropriate for checking universal joint wear?

A. Dial indicator
B. Feeler gauge
C. Torque wrench
D. Micrometer

5. What is the most likely cause of a driveshaft vibration that occurs only at highway speeds under a load?

A. Incorrect driveshaft length
B. Damaged center support bearing mount
C. Missing balance weights
D. Worn U-joints

6. When measuring driveline angles on a truck, what should be verified first?

A. Driveshaft runout
B. Axle pinion angle
C. Vehicle ride height
D. Transmission output shaft angle

7. Technician A says that excessive driveshaft angle can cause premature U-joint failure. Technician B says that a driveshaft should be installed with the slip yoke bottomed out in the transmission. Who is right?

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

8. When balancing a driveshaft, what should be done if the first weight placement does not correct the vibration?

A. Add weight directly opposite to the first weight location
B. Add a heavier weight at the same location
C. Remove the weight and try a different location
D. Replace the driveshaft

9. What is the correct procedure for phasing a two-piece driveshaft during reassembly?

A. Align the yokes at 90 degrees to each other
B. Position the balance weights toward the transmission
C. Install the longer section toward the rear axle
D. Align the yokes at both ends of each section in the same plane

10. A Class 8 truck has a shudder when accelerating from a stop. Technician A says to check for a loose flange at the rear of the transmission. Technician B says to check for worn slip splines in the driveshaft. Who is right?

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

11. When using an inclinometer to check driveline angles, what is the maximum acceptable combined operating angle for most heavy-duty applications?

A. 15 degrees
B. 7 degrees
C. 3 degrees
D. 12 degrees

12. What is the most likely cause of a cyclic vibration that occurs at a frequency related to driveshaft speed?

A. Driveshaft imbalance
B. Incorrect U-joint working angles
C. Worn center support bearing
D. Loose driveshaft bolts

13. Technician A says that a vibration caused by an out-of-balance driveshaft will increase with vehicle speed. Technician B says that a worn center support bearing typically causes a vibration that increases with torque load. Who is right?

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

14. When installing a new universal joint, what is the proper procedure for securing the bearing caps?

A. Install them loosely, then tighten in a star pattern
B. Apply thread locker to the caps before installation
C. Press them in evenly until the retaining clips can be installed
D. Hammer them in until they bottom out

15. What is the correct method for lubricating a universal joint that has grease fittings?

A. Inject grease until pressure builds up in the grease gun
B. Add grease slowly until it appears at all four bearing seals
C. Add grease until the fitting will not accept any more
D. Add exactly three pumps of grease to each fitting

16. During PTO driveshaft installation, what is the most important factor to check?

A. Proper driveshaft length
B. Driveshaft material type
C. Shaft diameter
D. Yoke finish quality

17. What should be done if driveline vibration analysis software shows excessive operating angles?

A. Replace the driveshaft with a heavier gauge model
B. Add more balance weights to the driveshaft
C. Use larger universal joints
D. Shim the axle, transmission, or adjust suspension height

18. What is the correct procedure when checking slip yoke splines for wear?

A. Weigh the slip yoke assembly
B. Measure the outside diameter of the splines
C. Measure the backlash between the mating splines
D. Check for blue discoloration on the splines

19. A truck has a vibration that occurs only during coastdown. What is the most likely cause?

A. Failed center bearing
B. Worn slip splines
C. Driveshaft imbalance
D. Incorrect driveshaft phasing

20. When replacing a center support bearing, Technician A says the bearing should be pressed onto the shaft. Technician B says the rubber insulator should be inspected for deterioration. Who is right?

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

21. A truck with an automated manual transmission is experiencing intermittent shift problems. What should be checked first?

A. Replace the transmission fluid
B. Adjust the clutch linkage
C. Replace the shift solenoids
D. Check for diagnostic trouble codes

22. A driver reports a grinding noise when shifting into gear. Technician A says this could be caused by worn synchronizer assemblies. Technician B says it could be caused by excessive clutch free play. Who is right?

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

23. A 10-speed transmission jumps out of 6th gear when under load. What is the most likely cause?

A. Damaged output shaft bearing
B. Worn detents or shift rails
C. Low transmission fluid level
D. Faulty air pressure regulator

24. During a transmission fluid check on a heavy-duty truck, a technician notices metal particles in the fluid. What should be checked next?

A. Magnetic drain plug
B. Transmission temperature sensor
C. Input shaft seal
D. Clutch adjustment

25. A truck's transmission is leaking fluid from the front. Technician A says a damaged input shaft seal could be the cause. Technician B says a cracked bell housing could be the cause. Who is right?

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

26. When inspecting a transmission, what indicates that the front bearing is worn?

A. Difficulty engaging reverse gear
B. Noise only when the clutch is engaged
C. Excessive input shaft endplay
D. Discolored transmission fluid

27. What component is MOST important to check when diagnosing a transmission that is hard to shift when cold but shifts normally at operating temperature?

A. Transmission mount condition
B. Transmission fluid viscosity
C. Clutch adjustment
D. Shift lever linkage

28. A driver reports that the transmission temperature gauge shows overheating during highway driving. Which of these is the MOST likely cause?

A. Low fluid level
B. Excessive input shaft endplay
C. Worn synchronizer rings
D. Loose driveshaft yoke

29. A truck with an air shift system has difficulty shifting into higher gears. Technician A says to check the air pressure regulator. Technician B says to inspect the shift control valve. Who is right?

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

30. When performing a transmission rebuild, what is the correct procedure for checking gear backlash?

A. Measure the distance between gear centers
B. Check the color pattern using marking compound
C. Mount a dial indicator on the gear tooth and measure movement
D. Rotate the gears by hand and feel for resistance

Answer Key & Explanations

1. D — Both Technician A and B
Both technicians are correct. Worn U-joints can create clunking noises during acceleration as the slack in the worn joint is taken up. Similarly, loose driveshaft yokes will allow movement that results in a clunk sound when power is applied.

2. C — Center support bearing
The center support bearing in a two-piece driveshaft supports the connection between the two driveshaft sections and is a common source of problems when worn.

3. B — Both Technician A and B
Both issues can cause vibration that increases with road speed. An out-of-balance driveshaft creates a rotating imbalance, while incorrect phasing between driveshaft sections creates a cyclical vibration.

4. A — Dial indicator
A dial indicator is the most appropriate tool for accurately measuring the amount of movement (wear) in a universal joint by detecting small movements between the cross and cap assemblies.

5. D — Worn U-joints
Worn U-joints are most likely to cause vibration under load at highway speeds because the increased torque exaggerates the movement in the worn components as they rotate.

6. C — Vehicle ride height
Vehicle ride height must be verified first when measuring driveline angles because improper ride height will change all subsequent angle measurements and lead to incorrect analysis.

7. B — Technician A only
Technician A is correct - excessive driveline angles accelerate U-joint wear. Technician B is incorrect because the slip yoke should have proper clearance, not be bottomed out, to allow for suspension movement and prevent binding.

8. A — Add weight directly opposite to the first weight location
If the first weight doesn't correct vibration, weight should be added directly opposite the first weight location. This approach systematically addresses balance issues by testing effects of weight placement.

9. D — Align the yokes at both ends of each section in the same plane
The yokes at both ends of each driveshaft section should be aligned in the same plane to ensure proper phasing, which prevents vibration caused by uneven rotational forces.

10. C — Both Technician A and B
Both technicians are correct. A loose transmission flange can cause shudder during acceleration, as can worn slip splines that allow excessive movement in the driveshaft assembly.

11. B — 7 degrees
The maximum acceptable combined operating angle for most heavy-duty applications is 7 degrees. Exceeding this angle can lead to premature U-joint failure due to excessive operating angles.

12. A — Driveshaft imbalance
Driveshaft imbalance is the most likely cause of a cyclic vibration related to driveshaft speed, as the imbalance creates a centrifugal force that increases with rotational speed.

13. D — Both Technician A and B
Technician A is correct - vibration from an out-of-balance driveshaft increases with speed. Technician B is also correct - a worn center bearing typically causes vibrations that increase with torque load as the bearing is subjected to more stress.

14. C — Press them in evenly until the retaining clips can be installed
When installing bearing caps, they should be pressed in evenly using appropriate tools until the retaining clips can be properly seated. This ensures even loading and proper retention of the bearing caps.

15. B — Add grease slowly until it appears at all four bearing seals
The correct method is to add grease slowly until it appears at all four bearing seals, which ensures complete lubrication of the bearing surfaces without over-packing.

16. A — Proper driveshaft length
The most important factor is proper driveshaft length, which ensures the PTO components have the correct operating clearances to prevent binding or separation during operation.

17. D — Shim the axle, transmission, or adjust suspension height
Shimming the axle, transmission, or adjusting suspension height can correct excessive operating angles by changing the relative positioning of driveline components.

18. C — Measure the backlash between the mating splines
When checking for slip yoke spline wear, measuring the backlash (movement) between the mating splines provides the most accurate assessment of wear and potential for vibration.

19. B — Worn slip splines
Worn slip splines are most likely to cause vibration during coastdown because the change from power to coast allows excessive movement in the worn spline connection.

20. A — Both Technician A and B
Both statements are correct. The bearing should be pressed onto the shaft using proper tools to prevent damage, and the rubber insulator should be inspected for deterioration which could cause vibration or misalignment.

21. D — Check for diagnostic trouble codes
The first step in diagnosing an automated manual transmission with intermittent shift problems should be to check for diagnostic trouble codes, as these will provide specific information about what systems or components are malfunctioning and guide further diagnostic steps.

22. C — Both Technician A and B
Both technicians are correct. Worn synchronizer assemblies can't properly match gear speeds, causing grinding during shifts. Excessive clutch free play prevents complete disengagement, allowing power transfer

during shifting which also causes grinding.

23. B — Worn detents or shift rails
When a transmission jumps out of a specific gear under load, the most likely cause is worn or damaged detents or shift rails for that particular gear. The detents hold the shift rails in position, and when worn, they can allow the transmission to pop out of gear, especially under load.

24. A — Magnetic drain plug
When metal particles are found in transmission fluid, a magnetic drain plug examination is the next logical step as it will collect ferrous metal particles and help identify the severity and possibly the source of the internal damage based on the amount and type of metal debris collected.

25. D — Both Technician A and B
Both statements are correct. A damaged input shaft seal is a common cause of front transmission leaks, and a cracked bell housing can also allow fluid to leak from the front of the transmission.

26. C — Excessive input shaft endplay
Excessive input shaft endplay is a primary indicator of worn front transmission bearings. This can be measured with a dial indicator and compared to manufacturer specifications to determine if the bearings need replacement.

27. B — Transmission fluid viscosity
The viscosity of transmission fluid significantly affects cold shifting. If too thick when cold, it can cause difficult shifting until warmed up. Checking fluid viscosity and condition is critical for this temperature-dependent shifting issue.

28. A — Low fluid level
Low fluid level is the most common cause of transmission overheating. Insufficient fluid reduces cooling capacity and lubrication, leading to increased friction and heat generation, especially during sustained highway driving.

29. D — Both Technician A and B
Both technicians are correct. The air pressure regulator must supply proper pressure to the shift system, and the shift control valve must direct air to the correct shift cylinders. Both could cause difficulty shifting into higher gears if malfunctioning.

30. C — Mount a dial indicator on the gear tooth and measure movement
Using a dial indicator on the gear tooth is the proper method for checking gear backlash. The indicator measures the amount of movement between meshing gears, which must be within manufacturer specifications for proper operation.

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