

THE TOP 80 MOST COMMON

AIR BRAKES QUESTIONS

Lose the fear of the unknown. Study the most common
CDL air brakes questions so you'll know what to expect
on the big test day.

Know what
to expect





Please do not try to take these documents into the knowledge exam room to cheat with

The term “**cheat sheet**” used to mean a sheet of notes that you kept with you to cheat on an exam. Today, it has also come to mean a quick reference or ready reference of the most important or frequently used items. That’s how we intend our “cheat sheets” to be used: As quick references for you to browse to help you study for your written knowledge test.

1. Oil and water usually collect in compressed air tanks. If you do not have an automatic tank drain, when should you drain the air tanks?

✓ After every working day.

2. To check the slack adjusters on S-cam brakes, you should

✓ park on level ground, chock the wheels, and release the parking brakes.

3. The safety valve is set to automatically reduce pressure at _____ psi.

✓ 150

4. If your truck has a properly functioning dual air brake system and minimum-size air tanks, the air pressure should build from 85 to 100 psi within _____ seconds.

✓ 45

5. During normal driving, spring brakes are usually held back by

✓ air pressure.

6. The driver must be able to see a warning before the pressure in the service air tanks falls below _____ psi.

✓ 60

7. Excessive use of the service brakes results in overheating, which can lead to

✓ expansion of the brake drums.

8. The air brake lag distance at 55 mph on dry pavement adds about _____ feet.

✓ 32

9. The total stopping distance for air brakes is longer than that for hydraulic brakes because of

✓ brake lag.

10. Repeatedly pressing and releasing (fanning) the brake pedal may result in

✓ a loss of brake air pressure.

11. An air brake system is fully charged at _____ psi.

✓ 125

12. The parking or emergency brake on a heavy vehicle can only be held in position by something that cannot leak away, like

✓ spring pressure.

13. Air braking takes more time than hydraulic braking because air

✓ takes more time to flow through the lines than hydraulic fluid.

14. When you apply the brakes, the brake shoes/linings are pressed against the

✓ brake drum.

15. When you are going down a long or steep grade after selecting the proper gear, the proper method of braking is to brake until your speed is about _____ miles per hour below your "safe" speed and then release your brakes.

✓ 5

16. It is not safe to drive a vehicle that has brake drums with cracks that are longer than _____ of the width of the friction area.

✓ 1/2

17. The emergency brake system

✓ uses parts of the service brake and parking brake systems to stop the vehicle in the event of a brake system failure.

18. What is a dual air brake system?

✓ A two-brake system: One brake operates the front brakes, and one operates the back brakes.

19. How can you check the slack adjusters?

- ✓ Park on level ground, turn off the parking brakes, and pull hard on each slack adjuster. It shouldn't move more than one inch.

20. Before starting down a hill, you should be in the proper gear

- ✓ so you only have to apply the brake just hard enough to feel a definite slowdown.

21. The driver must be able to see a low pressure warning, which comes on before pressure in the service air tank falls below _____ psi.

- ✓ 60

22. Modern air brake systems are three different systems combined: the service brakes, parking brakes, and _____ brakes.

- ✓ emergency

23. The air supply pressure gauge shows how much pressure

- ✓ is in the air tanks.

24. The parking or emergency brakes of trucks or buses can legally be held on by _____ pressure.

- ✓ spring

25. The stop light switch

- ✓ turns on the brake lights to warn drivers behind you.

26. With air brake-equipped vehicles, the parking brakes should be used

- ✓ whenever you leave the vehicle unattended.

27. For air brake systems in good condition, the air compressor should start pumping at about _____ psi.

- ✓ 100

28. The air compressor governor controls

- ✓ when air is pumped into the air storage tanks.

29. If your vehicle has an alcohol evaporator, every day during cold weather, you should

- ✓ check and fill the alcohol level.

30. Emergency controlled braking is when you

- ✓ apply the brakes as hard as you can without locking the wheels.

31. Water should be drained from the compressed air tanks

- ✓ because water can freeze in cold weather and cause brake failure.

32. What is the danger of non-functioning low pressure warning signal?

- ✓ This could cause sudden emergency braking in a single-circuit air system.

33. You know that your brakes are fading when

- ✓ you have to press the brake pedal harder to control speed on a downgrade.

34. Tractor and straight truck spring brakes will come fully on when the air pressure drops to a range of _____ psi.

- ✓ 20 to 45

35. Your truck has a dual air system, and one of the systems loses its pressure. What will happen?

- ✓ Either the front or rear brake will not be fully operational.

36. If your truck or bus has dual parking control valves, you can use pressure from a separate tank to

- ✓ release the spring emergency/parking brakes to move a short distance.

37. The most common type of foundation brake found on heavy vehicles is the

- ✓ S-cam drum.

38. If you must make an emergency stop, brake so that you

- ✓ can steer and your vehicle will stay in a straight line.

39. The brake system that applies and releases the brakes when the driver presses the brake pedal is the _____ brake system.

- ✓ service

40. The brake pedal in an air brake system

- ✓ controls the air pressure applied to the brakes.

41. To engage the parking brakes under normal conditions, the driver must first

- ✓ let the air out of the spring brakes.

42. Air tanks must be drained

- ✓ to drain moisture and oil out of the tanks.

43. What are spring brakes?

- ✓ If the air brakes leak down, springs apply the brakes to stop the vehicle.

44. The use of air brakes on a downgrade is only a supplement to the

- ✓ braking effect of the engine.

45. When you apply the brakes by pushing down on the brake pedal,

- ✓ air pressure is applied to the brake pads.

46. What is a slack adjuster?

- ✓ It is an adjusting nut on the the backside of the brake drum, used for adjusting the brakes.

47. Air brake-equipped vehicles have

- ✓ an air supply pressure gauge.

48. To test the static air leakage rate, you should

- ✓ turn off the engine, release all brakes, and let the system settle.

49. When is it OK to leave your truck unattended without applying parking brakes or chocking the wheels?

- ✓ Never.

50. What factors can cause brakes to fade or fail?

- ✓ Overheating, low air pressure, and not relying on the engine braking effect.

51. If oil and water collects in the air tanks, what could happen to the brakes?

- ✓ The brakes could fail.

52. To correct a drive-wheel braking skid, you should

- ✓ stop braking, turn quickly, and countersteer.

53. How do you test the hydraulic brakes for leaks?

- ✓ Pump the brake pedal three times; then apply firm pressure to the pedal and hold for five seconds. The pedal should not move.

54. You are on a steep downgrade and have reached your safe speed of 40 mph. You would apply the service brakes until your speed drops to _____ mph.

- ✓ 35

55. Some air brake systems have an alcohol evaporator. What may happen if you don't keep the unit filled with alcohol?

- ✓ Ice may form in the air storage tanks and cause the brakes to fail.

56. In air brake vehicles, the parking brake should be used

- ✓ anytime the vehicle is parked.

57. Before you drive a truck or bus with a dual air brake system, the pressure in each air brake system should be at least _____ psi.

- ✓ 100

58. How should you check that the spring brakes come on when the air pressure in the system drops below a certain level?

- ✓ Park on level ground, chock the wheels, release the parking brake when you have enough air pressure, shut the engine off, and repeatedly press and release the brake pedal.

59. To make an emergency stop with air brakes, using the stab braking method, you should

- ✓ press on the brake pedal as hard as you can, release the brakes when the wheels lock, and apply the brakes again when the wheels start to roll.

60. If the air compressor should develop a leak, what keeps the air in the tanks?

- ✓ The one-way check valve.

61. The application pressure gauge shows how much pressure you have

- ✓ when you are applying the brakes.

62. The braking power of the spring brakes

- ✓ depends on the service brakes being in adjustment.

63. It is accepted that too much heat caused by using your brakes too often can also cause

- ✓ brake fade or failure.

64. When you pull hard on a slack adjuster, if its free play is more than _____, the slack adjuster will need to be adjusted.

- ✓ 1 inch

65. The S-cam

- ✓ forces the brake shoes against the inside of the brake drum.

66. If the spring brakes are on, when should you push the brake pedal?

- ✓ Never.

67. What is the first thing you should do when a low air pressure warning comes on?

- ✓ Stop and safely park as soon as possible.

68. If air pressure is not built up fast enough,

- ✓ the air pressure may drop too low during driving.

69. In ideal conditions, a truck or bus equipped with an air brake and traveling at 55 mph would require what stopping distance?

- ✓ More than 450 feet.

70. What do air brakes use to make the brakes work?

- ✓ Compressed air.

71. The parking brake applies and releases

- ✓ the parking brakes when you use the parking brake control.

72. The S-cam forces the brake shoes away from one another and presses them against the inside of the brake drum. It is called the S-cam because

- ✓ it is shaped like the letter "S."

73. How can you test the low pressure warning signal?

- ✓ Shut off the engine with enough air pressure, turn on the electrical power, and step on and off the brake pedal until the low air pressure warning signal comes on.

74. What is the purpose of an alcohol evaporator?

- ✓ To reduce the risk of ice in the brake valves and other parts in cold weather.

75. The brake chamber fills with air, pushing the rod out, which moves the _____, which twists the _____.

- ✓ slack adjuster; brake camshaft

76. To test the air service brakes,

- ✓ brake firmly while slowly moving forward.

77. Converter dollies built on or after March 1, 1998 are required to have anti-lock brakes. These dollies will have

- ✓ a yellow malfunction lamp on the left side of the dolly.

78. Which is the most important thing to remember about emergency braking?

- ✓ If the wheels are skidding, you cannot control the vehicle.

79. Controlled braking

- ✓ is used to keep a vehicle in a straight line when braking.

80. The air loss rate for a straight truck or bus with the engine off and the brakes on should not be more than

- ✓ 3 psi in one minute.