

Air Brakes

1) When is it OK to leave your truck unattended without applying the parking brakes and choking the wheels?

- a) Never
- b) If you are only away for a few minutes
- c) If you are conducting a pre-trip inspection

2) The stop light switch?

- a) Tells you when the air brake system has low air pressure
- b) Tells you when you need to use your emergency brakes
- c) Turns on your brake lights to warn drivers behind you

3) 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.

- a) 1/2
- b) 1/4
- c) 1/8

4) To test air service brakes, you should:

- a) Stop the vehicle, brake in a low gear, depress the service brakes, and then gently pull against the brakes
- b) Brake firmly while slowly moving forward
- c) Brake slowly while slowly moving backwards

5) A slack adjuster's free play needs to be adjusted if it is more than about _____ how many inches when you pull hard on it?

- a) 1/4 inch
- b) 1/2 inch
- c) 1 inch

6) If air pressure is not built up within the correct amount of time, then:

- a) You should be ready to use your parking brakes to stop
- b) The alcohol container may be low
- c) Your air pressure may drop to a low point while driving, requiring an emergency stop

7) The safety valve reduces pressure at _____ psi?

- a) 50
- b) 100
- c) 150

8) Why should you drain water from compressed air tanks?

- a) Water's low boiling point reduces braking power
- b) Water can freeze in cold weather and cause brake failure
- c) Water cools the compressor too much

9) If your vehicle has an alcohol evaporator, every day during cold weather you should?

- a) Check and fill the alcohol level
- b) Change the alcohol from a new bottle
- c) Check the oil for alcohol content

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

- a) 1 psi in 30 seconds
- b) 2 psi in 45 seconds
- c) 3 psi in one minute

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

- a) 50
- b) 60
- c) 80

12) The air brake lag in distance at 55 mph on dry pavement adds about _____

- feet. a) 12 feet
- b) 32 feet
- c) 52 feet

13) If your truck has a properly functioning dual air brake system and minimum size air tanks, the air pressure should build up from 85 to 100 psi within how many seconds? a) 60

- b) 30
- c) 45

14) How should you check that your service brakes are working properly? a) Park on slight grade, drain off pressure, set parking brake and check to the movement b) Park on a level ground, chock the wheels, engage the parking brakes when you have the correct amount of air pressure to do so and shut the engine off

- c) Park on level ground, wait until normal air pressure is reached, release the parking brake and move forward slowly at about 5 mph. Then apply the brakes firmly using the brake pedal

15) A straight truck or bus air brake system should not leak at the rate of more than _____ psi per minute with the engine off and the brakes released.

- a) 1
- b) 2
- c) 3

16) Excessive use of the service brakes results in overheating which can lead to:

- a) Proper adjustment of S-cam

b) Increase contact between the brake drums and linings

2

c) Expansion of the brake drums

17) The safety valve is set automatically when pressure is:

- a) 50
- b) 100
- c) 150

18) If you must make an emergency stop, you should brake so you:

- a) Use the handbrake before the brake pedal
- b) Can steer and so your vehicle stays in a straight line
- c) Use the full power of the brakes to lock them

19) Your truck or bus has a dual air brake system. If a low air pressure warning comes on for only one system, what should you do?

- a) Reduce your speed and drive to the nearest garage for repairs
- b) Reduce your speed and test the remaining system while under way
- c) Stop right away and safely park. Continue only after the system is fixed

20) The brake pedal in an air brake system:

- a) Controls the speed of the air compressor
- b) Controls the air pressure applied to put on the brakes
- c) Is connected to slack adjusters by a series of rods and linages

21) All air brake equipped vehicles have:

- a) A supply pressure gauge
- b) An air usage gauge
- c) A backup hydraulic system

22) With air brake vehicles, the parking brakes should be used:

- a) Whenever you leave the vehicle unattended
- b) As little as possible
- c) Only during pre and post-trip inspections

23) A straight truck or bus air brake system should not leak at the rate of more than _____ psi per minute with the engine off and the brakes released. a) 1

- b) 2
- c) 3

24) To check the free play of manual slack adjuster of S-cam brakes, you should park on:

- a) Level ground, chock the wheels and release the parking brakes
- b) Level ground and apply the parking brakes, then apply service brakes
- c) Level ground and drain off air pressure before checking the adjustment

25) The use of brakes on a long and steep downgrade under normal conditions is only a supplement to:

3

- a) Use of spring brakes
- b) The use of the front brakes limiting valve
- c) The braking effect of the engine

26) The most important thing to do when a low air pressure warning comes on is:

- a) Upshift
- b) Downshift
- c) Stop and safely park as soon as possible

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

- a) Spring pressure
- b) Air pressure
- c) Hydraulic pressure

28) Repeatedly partially releasing and pressing the brake pedal may result in:

- a) A loss of brake air pressure
- b) A buildup of brake air pressure
- c) No change of brake air pressure

29) The brake system that applies and releases the brakes when the driver uses the brake pedal is the _____ brake system.

- a) Emergency
- b) Service
- c) Parking

30) A slack adjuster's free play needs to be adjusted if it is more than about _____ when you pull hard on it?

- a) 1/4 inch
- b) 1/2 inch
- c) 1 inch

31) An air brake system is fully charged at what psi?

- a) 75
- b) 100
- c) 125

32) If the spring brakes are on, when should you push the brake pedal?

- a) Only when driving downhill
- b) Only on the slippery road
- c) Never

33) When brakes are applied the brake shoes will press against the:

- a) Brake drum or disk
- b) Slack adjuster
- c) S-cam

4

34) The safety valve discharges automatically at the pressure of:

- a) 50
- b) 100
- c) 150

35) Emergency stab braking is:

- a) When you press hard on a brake pedal and apply hand valve while you stop
- b) Use light steady pressure on the brake pedal
- c) Press on the brake pedal as hard as you can, release the brakes when the wheels locked, brakes again when the wheels start rolling

36) Why should you drain water from compressed air tanks?

- a) Water low boiling point reduces braking power
- b) Water can freeze in cold weather and cause brake failure
- c) To keep from fouling the air compressor oil

37) Modern air brake systems combine three different systems. They are the service, the parking, and the _____ brakes.

- a) Emergency
- b) Foot
- c) Drum

38) If you do not have automatic tank drains, how often should you drain compressed air storage tanks?

- a) After every four hours of service
- b) At the end of each day of driving
- c) Once a week

39) The proper use of the brakes when going down a long steep grade after selecting a proper gear is to brake until your speed is about _____ mph below the posted speed for your safety and release your brake.

- a) 5 mph
- b) 15 mph
- c) 10 mph

40) In ideal conditions a truck or bus with an air brake going at 55 mph would require stopping distance of how many feet?

- a) Less than 100 feet
- b) More than 300 feet

c) From 100 to 300 feet

41) The application pressure gauge shows how much air pressure you:

- a) Have in the air tanks
- b) Are applying to the brakes
- c) Have in a modulating control valve

5

42) The spring brakes used on the chambers in a straight truck will bring you to a stop when air pressure drops below _____ psi.

- a) 20
- b) 60
- c) 100

43) Some air brake systems have an alcohol evaporator. What may happen if you don't keep the proper level of the alcohol?

- a) The S-cam may not take back when you release the brake pedal
- b) Ice may form in the air storage tank and cause a brake failure
- c) Ice may form on the brake drums and wear them out

44) Your truck or bus has a dual air brake system. If a low air pressure warning comes on for only one, what should you do?

- a) Bring your vehicle to a complete stop right away and safely park. Continue only after the system is fixed
- b) Reduce your speed, and test the remaining system while under way
- c) Reduce your speed and drive to the nearest garage for repairs

45) When brakes are applied the brake shoes will align to press against the:

- a) Brake drum or disk
- b) Slack adjuster
- c) S-cam

46) The braking power of the spring brakes:

- a) Is not affected by the condition of the service brakes
- b) Depends on the service brakes being in adjustment
- c) Increases when the service brakes are hot

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

- a) 40
- b) 60
- c) 80

48) Which of these is NOT a proper time to apply the parking brakes? a)
If the brakes are very hot (eg after just coming down a steep grade) b)
To use parking brakes if you park for less than 10 minutes

c) If you are going to use the parking brakes, you need to make sure that they will hold the vehicle

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

- a) Balance the service brake system when you are parked
- b) Stay parked twice as long without using up service air pressure

6

c) Release the spring emergency/parking brakes to move a short distance

50) The most common type of foundation brake found on heavy vehicles is the:

- a) Wedge drum
- b) S-cam drum
- c) Disk

51) If your truck or bus has a dual air brake system. If a low air pressure warning comes on for only one, what should you do?

- a) Bring the vehicle to a safe stop and safely park. Continue only after the system is fixed
- b) Reduce your speed and test the remaining system while under way
- c) Reduce your speed and drive to the nearest garage for repairs

52) With air brake vehicles, the parking brakes should be used:

- a) As little as possible
- b) Any time when vehicle is parked
- c) To hold your speed when going downhill

53) Excessive heat caused by using your brakes too often can also cause:

- a) Modulated control valve to wear out
- b) Brake linings to split up
- c) Brake to fade or fail

54) If you must make an emergency stop, you should brake so you:

- a) Can steer hard while braking hard
- b) Can steer and so your vehicle stays in a straight line
- c) Use the hand

55) The supply pressure gauge shows how much pressure:

- a) Is in the air tanks
- b) You have used in this trip
- c) Is going to the brake chamber

56) If you are driving down a steep downgrade and you have reached the speed of 40 mph, you would apply the service brake until your speed dropped to below _____ mph. a)

25

- b) 30
- c) 35

57) Parking or emergency brakes of trucks and buses can legally be held on by _____ pressure.

- a) Spring
- b) Air
- c) Fluid

7

58) The S-cam:

- a) Controls the flow air to each of the brake chambers
- b) Pulls the brake shoes away from the drum and allow the wheels to roll freely
- c) Forces the brake shoes against the inside of the brake drum

59) Under normal conditions, in order to engage the parking brakes, driver must:

- a) Turn off the engine
- b) Let the air out of air brake system
- c) Be sure air brakes system is fully pressurized

60) Total stopping distance for air brakes is longer than that for hydraulic brakes due to _____ distance.

- a) Braking lag
- b) Reaction
- c) Effective braking

61) It is accepted that too much heat caused by using your brakes too often can also cause:

- a) Modulated air valve to wear out
- b) Brake lining to split up
- c) Brake to fade or fail

62) During normal driving, spring brakes are usually held back by:

- a) Bolts of clamp
- b) Air pressure
- c) Spring pressure

63) The air compressor stops air at what psi?

- a) 100
- b) 125
- c) 150

64) The supply pressure gauge shows how much pressure:

- a) Is in the air tanks
- b) Tractor brake lines
- c) Trailer brake lines

- 65) The braking power of the spring brakes:
- a) Depends on the service brakes being in adjustment
 - b) Is not affected by the condition of the service brakes
 - c) Can only be tested by highly-trained brake service technician
- 66) Your brakes are fading when:
- a) You have to push harder on a brake pedal to control your speed on a downgrade
 - b) Less pressure is needed on the brake pedal for each stop
 - c) The brake pedal feels spongy when you apply pressure

8

- 67) The air compressor governor controls:
- a) The speed of the vehicle
 - b) The temperature of air pumped into the storage tanks
 - c) How fast air is pumped into the air storage tanks
- 68) Air braking takes more time than hydraulic braking because air:
- a) Air brakes use different brake drums
 - b) Takes more time to flow through the lines than hydraulic fluid
 - c) Brakes require heavier return springs

