

Pre-trip Brake Inspection I

The braking system is one of several key safety-related items on a Commercial Motor Vehicle. Catastrophic brake failure, such as sudden air loss, may lead to loss of control and the driver's inability to recover. Progressive brake deterioration, such as brake shoe wear without corresponding adjustment, can be even more troublesome because it may appear innocuous during normal driving, but may precipitate an accident during emergency braking applications.

Whether your CMV is old or brand new, a *thorough pre-trip brake inspection should be performed before every trip*. It should be done right, and the same every time to detect any brake deficiencies which could potentially cause injury to the driver or another motorist on the road that day.

AIR BRAKE CHECK

Air brake safety devices vary. However, this procedure is designed to see that any safety device operates correctly as air pressure drops from normal to a low air condition. For safety purposes, in areas where an incline is present, you will need to use wheel chocks during the air brake check. The proper procedures for inspecting the air brake system are as follows:

Test Air Leakage Rate (Static check)

With a fully-charged air system (typically 120 psi), turn off the engine, chock the wheels, release (push in) the parking brake button (all vehicles) and trailer air supply button (for combination vehicles) and time the air pressure drop. After the initial pressure drop, the loss rate should be no more than 2 psi in one minute for single vehicles and no more than 3 psi in one minute for combination vehicles.

Test Air Brake System for Leaks

With parking brake and trailer air supply button (for combination vehicles) released (pushed in), apply firm pressure to the service brake pedal. Watch the air supply gauge and listen for leaks. After the initial pressure drop, the loss rate for single vehicles should be no more than 3 psi in one minute, and no more than 4 psi in one minute for combination vehicles. If the air loss rate exceeds these figures, have the air system repaired before operating.

Test Low Pressure Warning Alarm and/or Signal

Turn the key to the on position. Rapidly apply and release the service brake pedal to reduce air tank pressure. The low air pressure warning signal must come on before the pressure drops to less than 60 psi in the air tank. If the warning alarm/signal doesn't work, you could be losing air pressure without knowing it. This could cause the

spring brakes to activate suddenly. Only limited braking can be done before the spring brakes come on.

Check That the Spring Brakes Come on Automatically

Continue to rapidly apply and release the service brake pedal to further reduce air tank pressure. The trailer air supply button (if it is a combination vehicle) and parking brake button should pop out when the air pressure falls to the manufacturer's specification (usually between 20 to 40 psi). This causes the spring brakes to come on.

Check Rate of Air Pressure Buildup

When the engine is operating at 1800 RPM, the pressure should build from 85 to 100 psi within 45 seconds in dual air systems. (If the vehicle has larger than minimum air tanks, the buildup time can be longer and still be safe. Check the manufacturer's specifications.) If air pressure does not build up fast enough, your pressure may drop too low during driving, requiring an emergency stop. Don't drive until you get the problem fixed.

Test Service Brakes

Wait for normal air pressure, release the parking brake and trailer air supply button, move the vehicle forward slowly (about 5 mph), and apply the brakes firmly using the brake pedal. Pay attention to any vehicle "pulling" to one side, unusual feel, or delayed stopping action. This test could show problems which you otherwise wouldn't know about until you needed the brakes on the road.

PARKING BRAKE CHECK

Apply parking brake only and make sure it will hold the vehicle by shifting into a lower gear and gently pulling against the brake.

DRIVER'S PERFORMANCE

With the implementation of FMCSA's CSA 2010, not only are motor carriers monitored and scored on their performance, but CMV driver's are as well. The better pre-trip inspection you do before you get on the road, the less likely you are to receive a roadside inspection violation which would negatively impact your PSP score, intern potentially affecting your Safety Performance History.



November, 2019
The Shield
Pre-trip Brake Inspection I
Quiz



Driver Name: _____ Date: _____
Please Print

Driver Signature: _____

Please circle one correct answer for each question.

1. A thorough pre-trip brake inspection should be performed _____?
 - a. once per week
 - b. after every trip
 - c. before every trip
 - d. none of the above

2. When testing for air leakage, after the initial pressure drop, the loss rate should be no more than ____ psi in one minute for combination vehicles.
 - a. 2
 - b. 3
 - c. 4
 - d. None of the above

3. When reducing air pressure to verify that the spring brakes come on automatically, which of the following should pop out when the air pressure falls to the manufacturer's specification?
 - a. Trailer air supply button
 - b. Parking brake button
 - c. Both of the above
 - d. Neither of the above

4. When testing service brakes, which of the following is a problem to watch out for?
 - a. Pulling to one side
 - b. Unusual feel
 - c. Delayed stopping action
 - d. All of the above

5. Receiving a roadside inspection violation has not impact on a driver's PSP score.
 - a. True
 - b. False

