

## Pre-trip Brake Inspection II

It goes without saying that brakes are extremely important for safe CMV operations. The good news is that most brake problems can be discovered and isolated during pre and post-trip vehicle inspections.

### AUTOMATIC ADJUSTERS

The following vehicles manufactured after October 20, 1994 are required to be equipped with automatic brake adjusters:

- Commercial Motor Vehicles (CMV) subject to Federal Motor Carrier Safety Regulation (FMCSR)
- Commercial Motor Vehicles equipped with air brakes and subject to Federal Motor Vehicle Safety Standard (FMVSS)

*The big question then is: Why are self adjusting brakes not automatically adjusting and brakes still comprise the largest percentage of out-of-service violations cited during roadside inspections?*

*Answer:* With automatic slack adjusters on almost all commercial motor vehicles today, a portion of these violations can be attributed to the technical working of the automatic slack adjuster.

Professional drivers will maintain a space cushion between them and the vehicles in front of them. When applying the brakes they will usually apply the brakes with 15% to 25% air application. Only in a defensive action will a driver apply the brakes with greater than 60% air application. These braking incidents are referred to as "Panic Stops" or "Rapid De-acceleration Occurrences".

Analysis reflects that most professional drivers will require less than six of this type of brake application per 1,000 miles driven. Most recent model trucks are equipped with "stroke sensitive" automatic adjusters. This type of slack adjuster adjusts the brakes on the return stroke. This adjustment however, occurs only when the application is greater than 60%. Therefore, the safer the driver operates the unit, the less opportunity there is for an automatic brake adjustment.

### ENSURING AUTOMATIC ADJUSTMENT

So, to ensure that your brakes are always in adjustment, the following process is recommended as part of your regular pre-trip inspection:

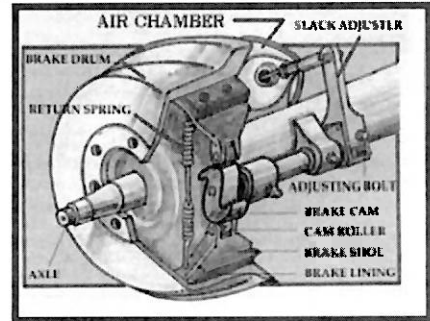
1. During your pre-trip inspection complete 10 full brake applications while the unit is parked. A slack adjuster will adjust approximately ½ inch with every 10 full brake applications. Including this procedure as part of your pre-trip inspection will ensure that your brakes are always fully in adjustment. In the event of a roadside inspection, repeat this process while waiting your turn in the inspection process. This will ensure that the automatic slack adjuster has adjusted the brakes to compliance.

2. During the Pre-Trip inspection, a driver is required by D.O.T. to check the low air pressure-warning device. This should be audible at 60 psi. To check this device the air pressure must be lowered to 60 psi. If while accomplishing this portion of the inspection, a driver would fully apply and release, the air pressure should drop approximately 4 psi with each application.

When a driver performs a full pre-trip inspection, to include the above actions, that driver is allowing the autoslack adjusters to automatically adjust the brakes, subsequently resulting in significantly fewer violations for brakes out of adjustment.

### FINAL BRAKE FACTS

- The only way to know when you have a brake adjustment problem is to measure the stroke.
- Braking systems are complicated and contain many parts that need constant inspection and attention to ensure proper operation and performance.
- Brakes must be properly adjusted, maintained and inspected before and after every trip
- Remember, you have a duty to inspect, not repair! Unless you are trained and skilled, **do not adjust or service brakes yourself; take your vehicle to a reputable garage.**



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The Shield  
*Pre-trip Brake Inspection II*  
Quiz



Driver Name: \_\_\_\_\_ Date: \_\_\_\_\_  
Please Print

Driver Signature: \_\_\_\_\_

Please circle one correct answer for each question.

1. A portion of brake violations during roadside inspections can be attributed to the technical working of the \_\_\_\_\_.
  - a. on-board logging system
  - b. automatic slack adjuster
  - c. driver's cell phone
  - d. all of the above
2. When will a driver apply the brakes with greater than 60% air application?
  - a. Every time they apply the brakes
  - b. Only when testing the brakes
  - c. Only in a defensive action
  - d. None of the above
3. A slack adjuster will adjust approximately ½ inch with every \_\_\_\_\_ full brake applications.
  - a. 5
  - b. 10
  - c. 25
  - d. None of the above
4. A driver could significantly reduce his or her violations for brakes out of adjustment by doing what?
  - a. Performing a full pre-trip inspection
  - b. Always practicing safe driving
  - c. Never incurring a "panic stop"
  - d. All of the above
5. A driver should always attempt to repair or service brakes first, before taking to a trained professional.
  - a. True
  - b. False

