Cancelled Sept 2000

IN-SERVICE BRAKE PERFORMANCE TEST PROCEDURE—VEHICLES OVER 4500 kg (10 000 lb)—SAE J1250 NOV92

SAE Recommended Practice

Report of the Brake Committee approved February 1980 and revised by the Truck and Bus Brake Committee December 1987. Rationale statement available. Reaffirmed by the SAE Truck and Bus Brake Systems Subcommittee of the SAE Truck and Bus Brake Committee November 1992.

Foreword—This reaffirmed document has been changed only to reflect the new SAE Technical Standards Board format.

1. Scope—This SAE Recommended Practice establishes a uniform practical series of subprocedures for level road testing of the brake performance of vehicles with gross vehicle weight ratings over 4500 kg (10 000 lb).

1.1 Purpose—The purpose of this practice is to establish a uniform method for use by operators and law enforcement agencies, to evaluate the condition of the brake systems of vehicles with GVWRs and GCWRs over 4500 kg (10 000 lb) under any condition of loading. By following the test procedures set forth, the operator and/or law enforcement agencies can ascertain if the vehicle meets the service brake and emergency brake stopping distance requirements of applicable State and Federal regulations.

2. References

2.1 Applicable Documents—The following publications form a part of this specification to the extent specified herein. The latest version of SAE publications shall apply.

2.1.1 SAE PUBLICATIONS—Available from SAE, 400 Commonwealth Drive, Warrendale, PA 15096-0001.

SAE J229—Service Brake Structural Integrity Test Procedure—Passenger Car

3. General—This practice is written as a quick assessment procedure to uncover the most common or gross performance inadequacies in the braking system; however, not all performance and maintenance problems may be uncovered. Good vehicle maintenance and preventative maintenance programs are of utmost importance for vehicle safety. Because of the maximum speed limitations of the typical inspection site and the safety of the tester, speed and temperature fade problems and worn components may not be uncovered.

4. Equipment and Location

4.1 Instrumentation and Equipment—The tests shall be run using a bumper or frame clamping fifth wheel capable of displaying vehicle speed and distance to stop, triggered by initial brake control movement or force sensor.

4.2 Test Area—The test area shall be substantially straight, level (not to exceed 1% grade), dry, smooth, hard surface roadway of portland cement, concrete, or equivalent, that is free from loose material and approximately 60 m (200 ft) in length with an access adequate to permit a truck to enter at 32 km/h (20 mph). The test surface shall be marked with a 3.7 m (12 ft) wide lane by marking the test surface or using pylons.

It is recommended that the desired stopping distance be identified by surface markings or pylons as a guide for the driver.

5. System Leak Check—The following checks are to be made after the engine has been run a sufficient time to build up normal air pressure, boost pressure, or boost vacuum (1 min minimum).

5.1 Air and Air Assist Hydraulic Systems

5.1.1 With engine off and brakes unapplied, note for sounds or other evidence of air leakage.

5.1.2 With engine off, make a full pressure application and hold for 1 min. Record the drop in reservoir pressure(s) after initial application, and note any sound or other evidence of leakage.

5.2 Straight Hydraulic and Power Assisted (Vacuum or Hydraulic) Systems—Turn engine off and depress the brake pedal with a light pressure for 10 s and then press hard for 10 s. Note any change in pedal height while being held and sound or evidence of leakage.

6. Stopping Ability Test

6.1 Pretest Check Out—The tester shall briefly examine the vehicle, the load and its retention for conditions that might prove unsafe during the test such as load shift, poor steering, and brake pedal response, excessive brake system leakage, and that brakes are functioning on all wheels. If the vehicle and/or load is judged unsafe, the test shall be delayed until the condition is corrected.

6.2 Procedure—The driver shall enter the test area as near as possible to 32 km/h (20 mph) and maintain the speed until the prescribed location, at which time he shall apply the service brakes as rapidly as possible, without locking the wheels, attempting to bring the vehicle to a complete stop within a 3.7 m (12 ft) wide lane. The initial speed and distance the vehicle travels from start of brake application to stop shall be noted and recorded. Record any brake pull or instability, and whether or not stop was made within 3.7 m (12 ft) wide lane.

7. Emergency Brake System Check

7.1 Procedure—From 8 km/h (5 mph) apply the emergency brakes. Record distance to stop.

8. Distance Correction Formula for Small Initial Stopping Speed Errors—If the initial speed is within ±3.2 km/h (±2 mph), stopping distances shall be corrected per SAE J229. If the initial stopping speed variation is greater, the test shall be run over.

9. Report Form—General Data and Report Form, Figure 1.