

(g) Determine the control force pressure level or fluid level (as appropriate for the indicator being tested) necessary to activate the brake warning indicator.

(h) Number of runs: After the brake warning indicator has been activated, make the following stops depending on the type of brake system:

(1) 4 stops for a split service brake system.

(2) 10 consecutive stops for a non-split service brake system.

(i) Each stop is made by a continuous application of the service brake control.

(j) Restore the service brake system to normal at the completion of this test.

(k) Repeat the entire sequence for each of the other subsystems.

S7.10.4. *Performance requirements.*

For vehicles manufactured with a split service brake system, in the event of any rupture or leakage type of failure in a single subsystem, other than a structural failure of a housing that is common to two or more subsystems, and after activation of the brake system indicator as specified in S5.5.1, the remaining portions of the service brake system shall continue to operate and shall stop the vehicle as specified in S7.10.4(a) or S7.10.4(b). For vehicles not manufactured with a split service brake system, in the event of any one rupture or leakage type of failure in any component of the service brake system and after activation of the brake system indicator as specified in S5.5.1, the vehicle shall by operation of the service brake control stop 10 times consecutively as specified in S7.10.4(a) or S7.10.4(b).

(a) Stopping distance from 100 km/h test speed: ≤ 168 m (551 ft).

(b) Stopping distance for reduced test speed: $S \leq 0.10V + 0.0158V^2$.

S7.11. *Power brake unit or brake power assist unit inoperative (System depleted).*

S7.11.1. *General information.* This test is for vehicles equipped with one or

more brake power units or brake power assist units.

S7.11.2. *Vehicle conditions.*

(a) Vehicle load: GVWR only.

(b) Transmission position: In neutral.

S7.11.3. *Test conditions and procedures.*

(a) IBT: $\geq 50^\circ\text{C}$ (122°F), $\leq 100^\circ\text{C}$ (212°F).

(b) Test speed: 100 km/h (62.1 mph).

(c) Pedal force: ≥ 65 N (14.6 lbs), ≤ 500 N (112.4 lbs).

(d) Wheel lockup: No lockup of any wheel for longer than 0.1 seconds allowed at speeds greater than 15 km/h (9.3 mph).

(e) Number of runs: 6 stops.

(f) Test surface: PFC of 0.9.

(g) Disconnect the primary source of power for one brake power assist unit or brake power unit, or one of the brake power unit or brake power assist unit subsystems if two or more subsystems are provided.

(h) If the brake power unit or power assist unit operates in conjunction with a backup system and the backup system of a primary power service failure, the backup system is operative during this test.

(i) Exhaust any residual brake power reserve capability of the disconnected system.

(j) Make each of the 6 stops by a continuous application of the service brake control.

(k) Restore the system to normal at completion of this test.

(l) For vehicles equipped with more than one brake power unit or brake power assist unit, conduct tests for each in turn.

S7.11.4. *Performance requirements.*

The service brakes on a vehicle equipped with one or more brake power assist units or brake power units, with one such unit inoperative and depleted of all reserve capability, shall stop the vehicle as specified in S7.11.4(a) or S7.11.4(b).

(a) Stopping distance from 100 km/h test speed: ≤ 168 m (551 ft).

(b) Stopping distance for reduced test speed: $S \leq 0.10V + 0.0158V^2$.

S7.12. *Parking brake—Static test.*

S7.12.1. *Vehicle conditions.*

(a) Vehicle load: GVWR only.

(b) Transmission position: In neutral.

(c) Parking brake burnish:

(1) For vehicles with parking brake systems not utilizing the service friction elements, the friction elements of such a system are burnished prior to the parking brake test according to the published recommendations furnished to the purchaser by the manufacturer.

(2) If no recommendations are furnished, the vehicle's parking brake system is tested in an unburnished condition.

S7.12.2. *Test conditions and procedures.*

(a) IBT:

(1) Parking brake systems utilizing service brake friction materials shall be tested with the IBT $\leq 100^\circ\text{C}$ (212°F) and shall have no additional burnishing or artificial heating prior to the start of the parking brake test.

(2) Parking brake systems utilizing non-service brake friction materials shall be tested with the friction materials at ambient temperature at the start of the test. The friction materials shall have no additional burnishing or artificial heating prior to or during the parking brake test.

(b) Parking brake control force: Hand control ≤ 400 N (89.9 lbs); foot control ≤ 500 N (112.4 lbs).

(c) Hand force measurement locations: The force required for actuation of a hand-operated brake system is measured at the center of the hand grip area or at a distance of 40 mm (1.57 in) from the end of the actuation lever as illustrated in Figure 3.