

(c) The parking brake system shall be held in the applied position by energy other than fluid pressure, air pressure, or electric energy. The parking brake system shall be such that it cannot be released unless adequate energy is available upon release of the parking brake to make immediate further application with the required effectiveness.

[34 FR 15418, Oct. 3, 1969, as amended at 53 FR 49398, Dec. 7, 1988]

§ 393.42 Brakes required on all wheels.

(a) Every commercial motor vehicle shall be equipped with brakes acting on all wheels.

(b) *Exception.* (1) Trucks or truck tractors having three or more axles—

(i) Need not have brakes on the front wheels if the vehicle was manufactured before July 25, 1980; or

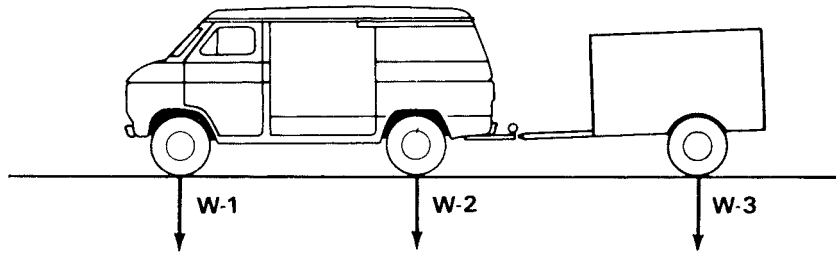
(ii) Manufactured between July 24, 1980, and October 27, 1986, must be re-

rofitted to meet the requirements of this section within one year from February 26, 1987, if the brake components have been removed.

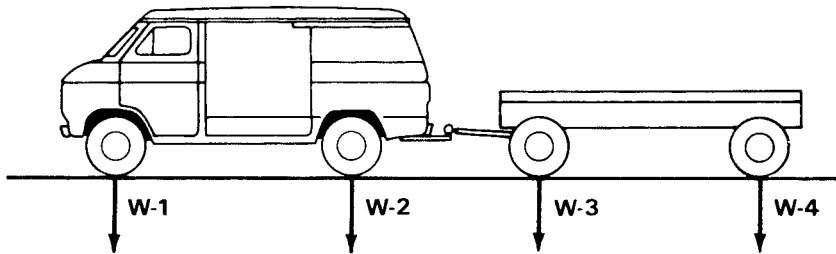
(2) Any motor vehicle being towed in a driveaway-towaway operation must have operative brakes as may be necessary to ensure compliance with the performance requirements of §393.52. This paragraph is not applicable to any motor vehicle towed by means of a tow-bar when any other vehicle is full-mounted on such towed motor vehicle or any combination of motor vehicles utilizing three or more saddle-mounts. (See §393.71(a)(3).)

(3) Any full trailer, any semitrailer, or any pole trailer having a GVWR of 3,000 pounds or less must be equipped with brakes if the weight of the towed vehicle resting on the towing vehicle exceeds 40 percent of the GVWR of the towing vehicle.

(Diagrams to illustrate § 393.42 for brake requirements for light trailers.)



(Semitrailer or 2-wheel pole trailer of 3,000 pounds gross weight or less must be equipped with brakes if W-3 is greater than 40 percent of the sum of W-1 and W-2.)



(Full trailer or 4-wheel pole trailer of 3,000 pounds gross weight or less must be equipped with brakes if the sum of W-3 and W-4 is greater than 40 percent of the sum of W-1 and W-2.)

[52 FR 2803, Jan. 27, 1987, as amended at 53 FR 49398, Dec. 7, 1988; 54 FR 48617, Nov. 24, 1989; 59 FR 25574, May 17, 1994; 61 FR 1843, Jan. 24, 1996]

§ 393.43 Breakaway and emergency braking.

(a) Every motor vehicle, if used to tow a trailer equipped with brakes, shall be equipped with means for providing that in case of breakaway of such trailer the service brakes on the towing vehicle will be sufficiently operative to stop the towing vehicle.

(b) Every truck or truck tractor equipped with air brakes, when used for towing other vehicles equipped with air brakes, shall be equipped with two means of activating the emergency features of the trailer brakes. One of these means shall operate automatically in the event of reduction of the towing vehicle air supply to a fixed pressure which shall not be lower than 20 pounds

per square inch nor higher than 45 pounds per square inch. The other means shall be a manually controlled device readily operable by a person seated in the driving seat. Its emergency position or method of operation shall be clearly indicated. In no instance may the manual means be so arranged as to permit its use to prevent operation of the automatic means. The automatic and manual means required by this section may be, but are not required to be, separate.

(c) Every truck tractor and truck when used for towing other vehicles equipped with vacuum brakes, shall have, in addition to the single control required by § 393.49 to operate all brakes of the combination, a second