

Minnesota

Trailer Summary:

Dimensions: Dimensions shall not exceed: a total length of 75 feet; a trailer length of 45 feet; a total width of 102 inches; and a height of 13 feet 6 inches.

Brakes: No trailer or semitrailer with a gross vehicle weight of 3,000 or more pounds, or a gross weight that exceeds the empty weight of the towing vehicle, may be drawn on a highway unless it is equipped with brakes that are adequate to control the movement of and to stop and hold the trailer or semitrailer.

Lighting/Reflectors: Two red tail lights visible from a distance of 500 feet, mounted at the same level and spaced as widely as practicable.

Clearance lamps are required on all vehicles, unladen or with load, which exceed 80 inches in width. Two located on the front at opposite sides and not more than six inches from the extreme outer edge of the vehicle or load, displaying a white or amber light visible from a distance of 500 feet to the front of the vehicle, and two located on the rear on opposite sides not more than six inches from the extreme outer edge of the vehicle or load, displaying a red light visible from a distance of 500 feet to the rear of the vehicle.

Marker lamps are required on all vehicles or combinations exceeding 30 feet in length. One shall be mounted on each side near the front and shall project a white or amber color. One red lamp shall be mounted on each side near the rear of the vehicle. Clearance lamps which are so mounted to also be visible from the side of the vehicle will satisfy this requirement provided an additional white or amber marker lamp is mounted approximately midway between the above specified marker lamps.

Shall carry at the rear either as a part of the rear lamp, or separately, at least two reflectors.

Hitch/Signals: The hitch should be securely fastened to the frame of the towing vehicle. Except for vehicles equipped with a regulation fifth wheel and kingpin type coupling device, all trailers must be equipped with safety chains or cables which are permanently attached to the trailer and attached to the towing vehicle chassis at a point near the hitch. There should be only enough slack in the chains or cables to permit free turning of the vehicles.

When one vehicle is towing another the drawbar or other connection must be of sufficient strength to pull the weight being towed.

Signal lamps are recommended on all trailers and are required when the signal lamps of the towing unit are not visible to the following driver

Mirrors: Every motor vehicle, which is connected with another vehicle so that it obstructs the driver's rear view, must be equipped with a rearview mirror that enables the driver to see for a distance of at least 200 feet to the rear of the last vehicle being towed.

Speed Limits: As posted.

Towing: The drawbar or other connection may not exceed 15 feet from one vehicle to the other

Other: N/A

Do The Commercial Vehicle Regulations Apply To You?

https://dps.mn.gov/divisions/msp/forms-reports/Documents/RD_CVRegsapply_handout.pdf -

This document contains a lot of the relevant info but cannot be copy and pasted into here with correct formatting.

Motor Sports

- Race cars
- Snowmobiles
- Motorcycles
- Watercraft

Horse Shows

Fishing Tournaments

Other Competitive Events

<http://www.dot.state.mn.us/cvo/faqs.html> - FAQ on Commercial Vehicles

What are the maximum dimensions of a vehicle that I can operate without needing an overdimension permit?

- Height: 13' 6"
- Width: 8' 6" This excludes rearview mirrors or temporary load securement devices that may extend an additional three inches on each side of the vehicle or load.
- Length: Maximum lengths for various vehicles are:
 - Single motor vehicle: 40'
 - Mobile crane: 48'
 - Each trailer or semi-trailer of a twin trailer combination: 28'6"
 - Trailer of a two-vehicle combination: 45'
 - Semi-trailer of a two-vehicle combination: 48'
 - Semi-trailer of a two-vehicle combination, if the distance from kingpin to the center of the rear axle group is 43' or less: 53'
 - Twin trailer combination, drive-away saddlemount combination, and drive-away saddlemount vehicle transporter combination: 75'
 - Truck-tractor with semi-trailer combination and all other two-vehicle combination: 75'

Who needs a DOT number?

- In [intrastate](#) transportation, an owner of a truck or truck-tractor having a gross vehicle weight of more than 10,000 pounds, other than a farm truck, is required to have a [USDOT number](#).
- In [interstate](#) transportation, every self-propelled [commercial motor vehicle \(CMV\)](#) is required to have a [USDOT number](#).

https://dps.mn.gov/divisions/msp/commercial-vehicles/Documents/Pamphlets/2012%20RV_Boat%20Trailers.pdf – Hitches and Coupling Devices

Minnesota Statutes:

169.81 HEIGHT AND LENGTH LIMITATIONS.

Subdivision 1. Height. (a) Except as provided in paragraph (b), no vehicle unladen or with load shall exceed a height of 13 feet six inches.

(b) A double-deck bus may not exceed a height of 14 feet three inches. Any carrier operating a double-deck bus exceeding 13 feet six inches shall obtain from the commissioner, with respect to highways under the commissioner's jurisdiction, and from local authorities, with respect to highways under their jurisdiction, an annual permit to operate the bus upon any highway under the jurisdiction of the party granting the permit. Annual permits shall be issued in accordance with applicable provisions of section 169.86. The fee for an annual permit issued by the commissioner is as provided in section 169.86, subdivision 5.

Subd. 2. Length of single vehicle; exceptions. (a) Statewide, no single vehicle may exceed 45 feet in overall length, including load and front and rear bumpers, except mobile cranes, which may not exceed 48 feet in overall length.

(b) Statewide, no semitrailer may exceed 48 feet in overall length, including bumper and load, but excluding non-cargo-carrying equipment, such as refrigeration units or air compressors, necessary for safe and efficient operation and located on the end of the semitrailer adjacent to the truck-tractor. However, statewide, a single semitrailer may exceed 48 feet, but not 53 feet, if the distance from the kingpin to the centerline of the rear axle group of the semitrailer does not exceed 43 feet.

(c) Statewide, no single trailer may have an overall length exceeding 45 feet, including the tow bar assembly but exclusive of rear bumpers that do not increase the overall length by more than six inches.

(d) For determining compliance with this subdivision, the length of the semitrailer or trailer must be determined separately from the overall length of the combination of vehicles.

(e) No semitrailer or trailer used in a three-vehicle combination may have an overall length in excess of 28- ½ feet, exclusive of:

(1) non-cargo-carrying accessory equipment, including refrigeration units or air compressors and upper coupler plates, necessary for safe and efficient operation, located on the end of the semitrailer or trailer adjacent to the truck or truck-tractor;

(2) the tow bar assembly; and

(3) lower coupler equipment that is a fixed part of the rear end of the first semitrailer or trailer.

Subd. 2a. Number of units in vehicle combination; generally, exceptions. (a) Statewide, no combination of vehicles coupled together may consist of more than two units, except as provided in paragraph (b).

(b) Three-unit combinations may only be used as provided for in subdivisions 3, paragraph (c); 3c; 8; and 10. Further, vehicles transporting milk from the point of production to the point of first processing may consist of no more than three units. Mount combinations, consisting of a truck or truck-tractor transporting similar vehicles by having the front axle of the transported vehicle mounted onto the center of the rear part of the preceding vehicle, may be used.

Subd. 3. Length of vehicle combinations. (a) Statewide, except on the highways identified under provisions in paragraph (c), no combination of vehicles may exceed a total length of 75 feet.

(b) However, the total length limitation does not apply to combinations of vehicles transporting:

- (1) telephone poles, electric light and power poles, piling, or pole-length pulpwood; or
- (2) pipe or other objects by a public utility when required for emergency or repair of public service facilities or when operated under special permits as provided in section 169.86.

These combinations of vehicles must be equipped with sufficient clearance markers, or lamps for night transportation, on both sides and upon the extreme ends of a projecting load to clearly mark the dimensions of the load.

(c) The following combination of vehicles regularly engaged in the transportation of commodities, property, or equipment may operate only on divided highways having four or more lanes of travel, and on other highways as may be designated by the commissioner of transportation subject to section 169.87, subdivision 1, and subject to the approval of the authority having jurisdiction over the highway, for the purpose of providing reasonable access between the divided highways of four or more lanes of travel and terminals, facilities for food, fuel, repair, and rest, and points of loading and unloading for household goods carriers, livestock carriers, or for the purpose of providing continuity of route:

- (1) a truck-tractor and semitrailer exceeding 75 feet in length;
- (2) a combination of vehicles including a truck-tractor and semitrailer drawing one additional semitrailer which may be equipped with an auxiliary dolly;
- (3) a combination of vehicles including a truck-tractor and semitrailer drawing one full trailer;
- (4) a truck-tractor and semitrailer designed and used exclusively for the transportation of motor vehicles or boats and exceeding an overall length of 75 feet including the load; and
- (5) a truck or truck-tractor transporting similar vehicles by having the front axle of the transported vehicle mounted onto the center or rear part of the preceding vehicle, defined in Code of Federal Regulations, title 49, sections 390.5 and 393.5 as drive-away saddle-mount combinations or drive-away saddle-mount vehicle transporter combinations, when the overall length exceeds 75 feet but does not exceed 97 feet.

(d) Vehicles operated under the provisions of this section must conform to the standards for those vehicles prescribed by the United States Department of Transportation, Federal Highway Administration, Bureau of Motor Carrier Safety, as amended.

Subds. 3a, 3b. Repealed by Laws 1983, c. 198, § 15.

Subd. 3c. Recreational vehicle combination. Notwithstanding subdivision 3, a recreational vehicle combination may be operated without a permit if:

- (1) the combination does not consist of more than three vehicles, and the towing rating of the full-size pickup truck or recreational truck-tractor is equal to or greater than the total weight of all vehicles being towed;

- (2) the combination does not exceed 70 feet in length;
- (3) the operator of the combination is at least 18 years of age;
- (4) the trailer is only carrying watercraft, motorcycles, motorized bicycles, off-highway motorcycles, snowmobiles, all-terrain vehicles, motorized golf carts, or equestrian equipment or supplies, and meets all requirements of law;
- (5) the vehicles in the combination are connected to the full-size pickup truck or recreational truck-tractor and each other in conformity with section 169.82; and
- (6) the combination is not operated within the seven-county metropolitan area, as defined in section 473.121, subdivision 2, during the hours of 6:00 a.m. to 9:00 a.m. and 4:00 p.m. to 7:00 p.m. on Mondays through Fridays.

Subd. 3d. Combination including automobile tow dolly. Notwithstanding subdivisions 2a and 3, a combination consisting of a single-unit truck or a pickup truck and not more than two two-wheeled automobile tow dollies may be operated without a permit when:

- (1) the combination is operated by an employee or agent of an automobile tow dolly manufacturer or a truck rental company;
- (2) no vehicle is being transported on either dolly; and
- (3) the combination does not exceed 50 feet in length.

Subd. 3e. Articulated buses. Notwithstanding subdivision 2, a motor carrier of passengers registered under section 221.0252 may operate without a permit an articulated bus of up to 61 feet in length.

Subd. 3f. Length limits exclusion; aerodynamic device. An aerodynamic device that meets the requirements under Code of Federal Regulations, title 23, section 658.16 (b)(4), is excluded from each calculation of length under subdivision 2, 3, or 3c, including (1) total vehicle length; and (2) length of a semitrailer or trailer, whether in a vehicle combination or not.

Subd. 4. Projecting loads. The load upon any vehicle operated alone, or the load upon the front vehicle of a combination of vehicles, shall not extend more than three feet beyond the front wheels of such vehicle or the front bumper of such vehicle if it is equipped with such a bumper.

Subd. 5. Manner of loading. (a) A vehicle must not be driven or moved on any highway unless the vehicle is so constructed, loaded, or the load securely covered as to prevent any of its load from dropping, sifting, leaking, blowing, or otherwise escaping.

(b) Notwithstanding paragraph (a), a vehicle or combination of vehicles may:

- (1) drop sand to secure traction;
 - (2) sprinkle water or other substances to clean or maintain the roadway; or
 - (3) leak liquid from thawing sugar beets only if transporting unprocessed sugar beets.
- (c) This subdivision does not apply to motor vehicles operated by a farmer or the farmer's agent when transporting produce such as small grains, shelled corn, soybeans, or other farm produce of a size and density not likely to cause injury to persons or damage to property on escaping in small amounts from a vehicle.

(d) A violation of this subdivision by a vehicle that is carrying farm produce and that is not exempted under paragraph (c) is a petty misdemeanor.

Subd. 5a. Firewood load. No vehicle that has a cargo area without a rear wall may be driven or moved on a trunk highway with a load of cut firewood of less than three feet in length unless the rear of the cargo area is covered with a material of sufficient strength to prevent any part of the load from escaping from the rear. No person shall transport firewood in any vehicle in an unsafe manner. Violation of this subdivision is a petty misdemeanor except that a peace officer may

issue a citation that amounts to a warning (1) for a first offense, and (2) if, in the judgment of the citing peace officer at the site, the load of firewood is made safe for transport.

Subd. 5b. Securing load; exceptions. (a) The driver of a vehicle transporting sand, gravel, aggregate, dirt, lime rock, silica, or similar material shall ensure that the cargo compartment of the vehicle is securely covered if:

(1) the vertical distance from the top of an exterior wall of the cargo compartment to the load, when measured downward along the inside surface of the wall, is less than six inches; or
(2) the horizontal distance from the top of an exterior wall of the cargo compartment to the load is less than two feet.

(b) The driver shall not operate a vehicle to transport sand, gravel, aggregate, dirt, lime rock, silica, or similar material in or on any part of the vehicle other than in the cargo container. The driver shall clean the vehicle of loose sand, gravel, aggregate, dirt, lime rock, silica, or similar material before the vehicle is moved on a road, street, or highway following loading or unloading.

(c) A driver of a vehicle used to transport garbage, rubbish, trash, debris, or similar material is not required to cover the transported material as long as (1) the vehicle is being operated at a speed less than 30 miles per hour, (2) the vehicle is not being operated on an interstate highway, and (3) no part of the load escapes from the vehicle. A driver shall immediately retrieve material that escapes from the vehicle, when safe to do so.

Subd. 6. Repealed by Laws 1967, c. 215, § 2, eff. April 22, 1967.

Subd. 7. Repealed by Laws 1983, c. 198, § 15.

Subd. 8. Livestock or poultry loading chute trailer. Notwithstanding the provisions of subdivisions 2 and 3, a farm truck as defined in section 168.002, subdivision 8, including a single-unit truck or a combination of vehicles of no more than two units and otherwise not exceeding the size and weight limitations prescribed by law, and a livestock or poultry truck, including a single-unit truck or a combination of vehicles of no more than two units and not otherwise exceeding the size and weight limitations prescribed by law, owned or operated by a livestock or poultry carrier and used primarily for transporting livestock or poultry for hire, may draw one additional two-wheel trailer, the loaded weight of which does not exceed 3,000 pounds, for the sole purpose of transporting a livestock or poultry loading chute; provided that such two-wheel trailer shall not be drawn by a two-unit combination on the public highways of this state beyond a ten-mile radius of the home post office of the owner or operator of the two-unit combination. The two-wheel trailer used solely for transporting a livestock or poultry chute is special mobile equipment.

Subd. 9. Application of subdivision 8. Subdivision 8 shall not apply to the seven-county metropolitan area.

Subd. 10. Pickup truck; limitation on drawing trailer. Notwithstanding any other provision of this section or any other law to the contrary, a pickup truck used primarily in the production or transportation of liquid fertilizer, anhydrous ammonia, or any agricultural commodity as defined in section 17.53, subdivision 2, may draw not to exceed two empty trailers when the resulting combination does not exceed the size and weight limitations otherwise prescribed by law. A pickup truck when drawing two trailers shall not be operated on the highways of this state beyond a 35-mile radius of the home post office of the owner of the pickup truck nor at a speed exceeding 35 miles per hour.

Subd. 11. Automobile transporter. (a) For purposes of this subdivision, the following terms have the meanings given them:

- (1) "automobile transporter" means any vehicle combination designed and used to transport assembled highway vehicles, including truck camper units;
- (2) "stinger-steered combination automobile transporter" means a truck tractor semitrailer having the fifth wheel located on a drop frame located behind and below the rear-most axle of the power unit; and
- (3) "backhaul" means the return trip of a vehicle transporting cargo or general freight, including when carrying goods back over all or part of the same route.
- (b) Stinger-steered combination automobile transporters having a length of 80 feet or less may be operated on interstate highways and other highways designated in this section, and in addition may carry a load that extends the length by four feet or less in the front of the vehicle and six feet or less in the rear of the vehicle.
- (c) An automobile transporter may transport cargo or general freight on a backhaul, provided it complies with weight limitations for a truck tractor and semitrailer combination under section 169.824.

Subd. 12. Towaway trailer transporter combinations. An unladen power unit may tow two trailers or semitrailers when the combination (1) is not used to carry property, (2) does not exceed 82 feet in length, and (3) has a total gross weight that does not exceed 26,000 pounds. The trailers or semitrailers must consist of inventory property of a manufacturer, distributor, or dealer of the trailers or semitrailers.

169.82 TRAILER EQUIPMENT.

Subdivision 1. Connection to towing vehicle.

- (a) When one vehicle is towing another the drawbar or other connection must be of sufficient strength to pull the weight being towed.
- (b) The drawbar or other connection may not exceed 15 feet from one vehicle to the other. This paragraph does not apply to the connection between any two vehicles transporting poles, pipe, machinery or other objects of structural nature which cannot readily be dismembered.

Subd. 2. Marking.

When one vehicle is towing another and the connection consists of a chain, rope, or cable, the connection must display a white, red, yellow, or orange flag or cloth not less than 12 inches square.

Subd. 3. Hitch, chain, or cable.

- (a) Every trailer or semitrailer must be hitched to the towing motor vehicle by a device approved by the commissioner of public safety.
- (b) Every trailer and semitrailer must be equipped with safety chains or cables permanently attached to the trailer except in cases where the coupling device is a regulation fifth wheel and kingpin assembly approved by the commissioner of public safety. In towing, the chains or cables must be attached to the vehicles near the points of bumper attachments to the chassis of each

vehicle, and must be of sufficient strength to control the trailer in the event of failure of the towing device. The length of chain or cable must be no more than necessary to permit free turning of the vehicles. A minimum fine of \$25 must be imposed for a violation of this paragraph.

(c) This subdivision does not apply to towed implements of husbandry.

(d) No person may be charged with a violation of this section solely by reason of violating a maximum speed prescribed in section 169.67 or 169.801.

169.80 SIZE, WEIGHT, LOAD.

Subdivision 1. Limitations; misdemeanor. (a) It is a misdemeanor for a person to drive or move, or for the owner to cause or knowingly permit to be driven or moved, on a highway a vehicle or vehicles of a size or weight exceeding the limitations stated in sections 169.80 to 169.88, or otherwise in violation of sections 169.80 to 169.88, other than section 169.81, subdivision 5a, and the maximum size and weight of vehicles as prescribed in sections 169.80 to 169.88 shall be lawful throughout this state, and local authorities shall have no power or authority to alter these limitations except as express authority may be granted in sections 169.80 to 169.88.

(b) When all the axles of a vehicle or combination of vehicles are weighed separately the sum of the weights of the axles so weighed shall be evidence of the total gross weight of the vehicle or combination of vehicles so weighed.

(c) When each of the axles of any group that contains two or more consecutive axles of a vehicle or combination of vehicles have been weighed separately the sum of the weights of the axles so weighed shall be evidence of the total gross weight on the group of axles so weighed.

(d) When, in any group of three or more consecutive axles of a vehicle or combination of vehicles any axles have been weighed separately and two or more axles consecutive to each other in the group have been weighed together, the sum of the weights of the axles weighed separately and the axles weighed together shall be evidence of the total gross weight of the group of axles so weighed.

(e) The provisions of sections 169.80 to 169.88 governing size, weight, and load do not apply to a vehicle operated under the terms of a special permit issued as provided by law.

Subd. 2. Outside width. (a) The total outside width of a vehicle exclusive of rearview mirrors or load securement devices which are not an integral part of the vehicle and not exceeding three inches on each side, or the load may not exceed 102 inches except that the outside width of a vehicle owned by a political subdivision and used exclusively for the purpose of handling sewage sludge from sewage treatment facilities to farm fields or disposal sites, may not exceed 12 feet, and except as otherwise provided in this section.

(b) A vehicle exceeding 102 inches in total outside width, owned by a political subdivision and used for the purpose of transporting or applying sewage sludge to farm fields or disposal sites

may not transport sludge for distances greater than 15 miles, nor may it be used for transportation of sewage sludge or return travel between the hours of sunset and sunrise, or at any other time when visibility is impaired by weather, smoke, fog, or other conditions rendering persons and vehicles not clearly discernible on the highway at a distance of 500 feet.

(c) The total outside width of a low bed trailer or equipment dolly, and the load, used exclusively for transporting farm machinery and construction equipment may not exceed nine feet in width except that a low bed trailer or equipment dolly with a total outside width, including the load, in excess of 102 inches may not be operated on any interstate highway without first having obtained a permit for the operation under section 169.86. The vehicle must display 12-inch square red flags as markers at the front and rear of the left side of the vehicle.

(d) The total outside width of a passenger motor bus, operated exclusively in a city or contiguous cities in this state, may not exceed nine feet.

(e) The maximum width limitation in paragraph (a) for a recreational vehicle as defined in section 168.002, subdivision 27, is exclusive of appurtenances on the recreational vehicle that do not extend beyond the width of the exterior rearview mirror of the recreational vehicle if the recreational vehicle is self-propelled, or the exterior rearview mirror of the towing vehicle if the recreational vehicle is towed.

Subd. 2a. Repealed by Laws 1983, c. 198, § 15.

Subd. 3. Load on passenger vehicle. No passenger-type vehicle shall be operated on any highway with any load carried thereon extending beyond the line of the fenders on the left side of such vehicle nor extending more than six inches beyond the line of the fenders on the right side thereof.

69.67. Brakes

Subdivision 1. Motor vehicle. Every motor vehicle, other than a motorcycle, when operated upon a highway, shall be equipped with brakes adequate to control the movement of and to stop and hold such vehicle, including two separate means of applying the brakes, each of which means shall be effective to apply the brakes to at least two wheels. If these two separate means of applying the brakes are connected in any way, they shall be so constructed that failure of any one part of the operating mechanism shall not leave the motor vehicle without brakes on at least two wheels.

Subd. 2. Motorcycle and bicycle. Every motorcycle, and bicycle with motor attached, when operated upon a highway, shall be equipped with at least one brake, which may be operated by hand or foot.

Subd. 3. Trailer, semitrailer. (a) No trailer or semitrailer with a gross vehicle weight of 3,000 or more pounds, or a gross weight that exceeds the empty weight of the towing vehicle, may be drawn on a highway unless it is equipped with brakes that are adequate to control the movement of and to stop and hold the trailer or semitrailer. A surge brake on a trailer or semitrailer meets the requirement of this paragraph for brakes adequate to stop and hold the trailer or semitrailer.

(b) No trailer or semitrailer with a gross vehicle weight of more than 3,000 pounds may be drawn on a highway unless it is equipped with brakes that are so constructed that they are adequate to stop and hold the trailer or semitrailer whenever it becomes detached from the towing vehicle.

(c) Except as provided in paragraph (d), paragraph (a) does not apply to:

(1) a towed custom service vehicle drawn by a motor vehicle that is equipped with brakes that meet the standards of subdivision 5, provided that such a towed custom service vehicle that exceeds 30,000 pounds gross weight may not be drawn at a speed of more than 45 miles per hour;

(2) a motor vehicle drawn by another motor vehicle that is equipped with brakes that meet the standards of subdivision 5; and

(3) a disabled vehicle while being towed to a place of repair.

(d) Vehicles described in paragraph (c), clause (2), may be operated without complying with paragraph (a) only if the trailer or semitrailer does not exceed the following gross weights:

(1) 3,000 pounds while being drawn by a vehicle registered as a passenger automobile, other than a pickup truck as defined in section 168.002, subdivision 26;

(2) 12,000 pounds while being drawn by any other motor vehicle.

Subd. 4. Service brakes on wheels; exceptions. (a) All motor vehicles, trailers, and semitrailers manufactured after June 30, 1988, must be equipped with foot brakes on all wheels.

(b) Paragraph (a) does not apply to:

(1) a mobile crane that is not operated at a speed of more than 45 miles per hour and is capable of stopping within the performance standards of subdivision 5;

(2) a motorcycle;

(3) a trailer or semitrailer with a gross weight of less than 3,000 pounds;

(4) a swivel-type third wheel on a travel trailer; and

(5) a temporary auxiliary axle attached to a motor vehicle during a period of vehicle weight restrictions for the purpose of relieving the weight on another axle, if the combined gross weight on the temporary axle and the axle being relieved does not exceed 18,000 pounds and the motor vehicle meets all brake requirements under this section.

(c) Paragraph (a) does not require brakes on the front wheels of a vehicle having three or more axles and manufactured before July 1, 1988, if the brakes on the other wheels of the vehicle meet the standards of subdivision 5.

Subd. 5. Performance standards. Every motor vehicle or combination of vehicles, at all times and under all conditions of loading, upon application of the service (foot) brake, shall be capable of

(1) developing a braking force that is not less than the percentage of its gross weight tabulated

herein for its classification, (2) decelerating in a stop from not more than 20 miles per hour at not less than the feet per second per second tabulated herein for its classification, and (3) stopping from a speed of 20 miles per hour in not more than the distance tabulated herein for its classification, such distance to be measured from the point at which movement of the service brake pedal or control begins. Tests for deceleration and stopping distance shall be made on a substantially level (not to exceed plus or minus one percent grade), dry, smooth, hard surface that is free from loose material.

169.70. Rear view mirror

Every motor vehicle which is so constructed, loaded or connected with another vehicle as to obstruct the driver's view to the rear thereof from the driver's position shall be equipped with a mirror so located as to reflect to the driver a view of the highway for a distance of at least 200 feet to the rear of such vehicle.