

Subchapter G

RECREATIONAL, SEMI- AND UTILITY TRAILERS

175.121. Application

Equipment standards set forth in this subchapter apply to trailers towed or operated on highways.

175.122. Suspension

Every suspension component shall be in safe operating condition.

175.123. Braking Systems

- (a) **Condition of Braking Systems**- Braking systems and components shall be in safe operating condition as described in §175.130 (relating to inspection procedure).
- (b) **Service Brakes**- A trailer shall be equipped with a service brake system. See 75 Pa.C.S. §4502 (relating to general requirements for braking systems).
- (1) The service brakes shall act on all wheels upon application except for the following:
 - (i) On inter-connected dual wheels, the brakes may act upon only one wheel.
 - (ii) A vehicle being towed in driveaway- towaway operation.
 - (iii) A trailer of a gross weight not exceeding 3,000 pounds, if the gross weight of the trailer does not exceed 40% of the gross weight of the towing vehicle.
 - (2) The service brakes, when required, shall be capable of stopping the vehicle in not more than the maximum stopping distance prescribed in Table I.
 - (3) Surge or inertia type brake systems are authorized.
 - (4) The brake lining and brake fluids shall be of type approved by the vehicle manufacturer or shall meet the Society of Automotive Engineers (SAE) standards (J998 January 1980) see Appendix A (relating to minimum requirements for motor vehicle brake linings-SAE J998).
 - (5) Metal from shoe may not contact brake drums or rotors.
 - (6) A vehicle to which additional axles and wheels have been added shall be equipped with brakes on all the additional wheels.
 - (7) Brake lines shall be approved for use as brake lines.
- (c) **Breakaway System**- A trailer operated on a highway which is equipped with brakes or which has gross weight in excess of 3,000 pounds shall be equipped with a breakaway system which shall stop and hold the vehicle automatically upon breakaway from the towing vehicle.
- (d) **Air Chamber Push Rod**- Air chamber push rod travel may not exceed the manufacturer's specifications maximum stroke allowance. See Chart 4 (relating to brake chamber push rod travel (typical)) for drawing of air chamber push rod.

175.124. Tires and Wheels

- (a) **Condition of Tires and Wheels**- Tires and wheels shall be in safe operating condition as described in §175.130 (relating to inspection procedure).
- (b) **Tire Standards**- A trailer shall have tires that were manufactured in conformance with standards contained in Chapter 159 (relating to new pneumatic tires). See 75 Pa.C.S. §4525, (relating to tire equipment and traction surface). Tires with equivalent metric size designations may be used.
- (c) **Radial Ply Tires**- A radial ply tire may not be used on the same axle with a bias or belted tires.
- (d) **Different Types of Tires**- Tires of different types and sizes, such as one snow tire and one regular tire or bias, belted or radial tires, may not be used on same axle, except in an emergency.
- (e) **Non-Pneumatic Tires**- No trailer operated on a highway shall be equipped with non-pneumatic tires.

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- (f) **Ice Grips or Studs**-A tire may not be equipped with ice grips or tire studs of wear-resisting material which have projections exceeding 2/32 inch beyond the tread of traction surface of the tire.
- (g) **Tires and Rims**-The axles of a vehicle specified under this subchapter shall be equipped with the number and type of tires and rims which have a load rating equal to or higher than those offered by the manufacturer.

175.125. Lighting and Electrical Systems

- (a) **Condition of Lamps and Switches**-Every required lamp or switch shall be in safe operating condition as described in §175.130 (relating to inspection procedure).
- (b) **Lighting Standards**-All lamps shall comply with Tables II-IV; Chapter 153 and 75 Pa.C.S. Chapter 43 (relating to lighting equipment).
- (c) **Other Required Lamps**-A trailer shall have at least one red stop lamp on each side of the rear of the vehicle, which shall be illuminated immediately upon application of the service brake.
- (d) **Illumination**-A trailer shall be equipped with parking lamps, stop lamps, tail lamps, turn signal lamps and hazard warning lamps designed for that specific function, which under normal atmospheric conditions, shall be capable of being seen and distinguished during nighttime operation, at a distance of 500 feet. See 75 Pa.C.S. §4303(b)-(d) (relating to general lighting requirements).
 - (1) Stop lamps, turn signals and hazard warning lamps shall be visible at a distance of 100 feet during normal sunlight.
 - (2) Rear lamps shall be lighted whenever headlamps, fog lamps, or auxiliary driving lamps are in operation.
 - (3) A trailer shall be equipped with hazard warning lamps, unless these lamps were not included as original equipment.
 - (4) The turn signals shall have a frequency of flash between 60-120 flashes per minute.
- (e) **Condition and Position of Lamps**-Lamps shall be properly fastened; direct light properly; be of a color not contrary to Tables II-IV (relating to required motor vehicle lighting equipment; location of required equipment and required motor vehicle lighting equipment); and may not be so obstructed by a screen, bar, auxiliary equipment or device of any kind as to obscure, change color of or obstruct the beam.
- (f) **Ornamental Lamps**-A lamp not enumerated in this section, and not located as described in Tables III-V of this chapter is prohibited unless it is available as original equipment. An illuminated sign is prohibited. Flashing or revolving lights are not ornamental lamps. Provisions relating to flashing or revolving lights are located in Chapters 15 and 173 (relating to authorized vehicles and special operating privileges; and flashing or revolving lights on emergency and authorized vehicles).
- (g) **Back-Up Lamps**-Back-up lamps, if the vehicle is so equipped, shall turn off automatically when the vehicle goes forward.
- (h) **Registration Plate Lamp**-A registration plate lamp, if originally equipped, shall emit white light and make the registration plate visible from a distance of 50 feet to rear of vehicle.
- (i) **Trailer**-A trailer that is less than 30 inches in overall width may be equipped with only one of each of the following lamps and reflective devices, located at or near its vertical centerline: tail lamps, stop lamp and rear reflex reflector.

175.126. Glazing

- (a) **Condition of Glazing**-Glazing, including rigid plastic, shall meet the requirements of Chapter 161 (relating to glazing materials). See 75 Pa.C.S. §4526 (relating to safety glass).
- (b) **Safety Glazing**-A trailer except house trailers, shall be equipped with safety glazing in all windows and wings. Requirements of this subsection do not apply to a vehicle manufactured or assembled before January 1, 1934, if the original glazing is not cracked or discolored.

175.127. Body

- (a) **Condition of Body**-All items on the body shall be in safe operating condition as described in §175.130 (relating to inspection procedure).

- (b) **Protruding Objects**-A trailer shall have no torn metal, glass or other loose or dislocated parts protruding from the body.
- (c) **Doors**-A vehicle specified under this subchapter shall be equipped with doors of a type used as original equipment. The doors shall open and close securely. Tailgates may be replaced with wood planking, nets or other material that will prevent loss of load. Tailgates may be removed when optional equipment is added.

175.128. Chassis

- (a) **Condition of Chassis**-All items on the chassis shall be in safe operating condition as described in §175.130 (relating to inspection procedure).
- (b) **Vehicle Frame**-The vehicle frame shall be in solid condition.
- (c) **Flooring and Floor Beds**-Flooring and floor beds shall be of a construction that supports occupants and cargo which the vehicle is capable of carrying, and may not have any openings through which exhaust gases could enter the passenger compartment.
- (d) **Rear Protection Device**-A trailer, except for pole trailers, whose body has a rear end clearance of more than 30 inches from the ground when empty, shall be equipped with a rear bumper or rear end protection device as follows:
 - (1) The rear bumper or rear end protection device shall be:
 - (i) Within 30 inches of ground when the vehicle is empty.
 - (ii) Within 24 inches of another rear bumper or rear end protection device, if more than one rear bumper or rear end protection device is used.
 - (iii) Within 18 inches—transverse distance—of the widest part of the rear of the vehicle.
 - (iv) Within 24 inches of the extreme rear of the vehicle.
 - (v) Substantially constructed and firmly attached.
 - (2) Trailers constructed and maintained so that the body, chassis or other parts of the vehicle afford the rear end protection described in paragraph (1) shall be deemed to be in compliance with this subsection.
- (e) **Fenders and Flaps**-The wheels of a trailer originally manufactured with fenders or flaps shall be equipped with fenders or flaps of a type used as original equipment.
- (f) **Rear Wheel Shields**-A trailer shall be constructed or equipped as to bar water or other road surface substances thrown from the rear wheels of the vehicle or combination at tangents exceeding 22 1/2°, measured from road surface, from passing in a straight line to the rear of the vehicle or combination. See 75 Pa.C.S. §4533 (relating to rear wheel shields).
- (g) **Tire Contact**-A tire may not come in contact with the body, fenders or chassis of the vehicle.

175.130. Inspection Procedure

- (a) **External Inspection** - An external inspection of a trailer over 3,000 pounds registered gross weight shall be performed as follows:
 - (1) Verify ownership, legality and proof of financial responsibility. For the purpose of this subchapter, ownership and legality shall be proven by a vehicle registration card, certificate of title or manufacturer's statement of origin. When a vehicle being held for resale is presented for inspection by a dealer licensed to sell vehicles in this Commonwealth, a VIN-specific auction slip or VIN-specific secure power of attorney evidencing the dealership's acquisition of the vehicle, or both, may be presented instead of a vehicle registration card, certificate of title or manufacturer's statement of origin.

REJECT IF one or more of the following apply:

- (i) When vehicle ownership and legality are demonstrated by presentation of certificate of title, manufacturer's statement of origin, VIN-specific auction slip or VIN-specific secure power of attorney:

- (A) The VIN is not in agreement with the certificate of title, manufacturer's statement of origin, VIN-specific auction slip or VIN-specific secure power of attorney. Exception: If only one digit is

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- incorrect or two digits are transposed, and the owner provides evidence that the appropriate Department form has been completed to correct the error or transposition.
- (B) The VIN plate is not securely fastened or is defaced, misplaced or missing.
- (ii) When vehicle ownership and legality are demonstrated by presentation of vehicle registration card:
- (A) The license plate is not in agreement with numbers on vehicle registration card. Exception: If only one digit is incorrect or two digits are transposed, and the owner provides evidence that the appropriate Department form has been completed to correct the error or transposition.
- (B) The license plate is hanging loosely from its mounting bracket.
- (C) The license plate is obscured so that the numbers cannot be identified.
- (D) The license plate lamp, if so equipped, does not illuminate the license plate.
- (iii) A registered vehicle only, if any of the following apply:
- (A) The license plate is not in agreement with the number on the registration certificate. Exception: If only one digit is incorrect or two digits are transposed, and the owner provides evidence that the appropriate department form has been completed to correct error or transposition.
- (B) The license plate is hanging loosely from its mounting bracket.
- (C) The license plate is obscured so that the numbers cannot be identified.
- (D) The license plate lamp, if so equipped, does not illuminate the license plate.
- (2) Check the glazing and **REJECT IF** any of the following apply:
- (i) Approved safety glazing or rigid plastic is not used in every window or wing except in house trailers.
- (ii) The glass or rigid plastic is shattered or broken or has any sharp edges.
- (iii) A trailer designed for passengers does not have safety glazing or rigid plastic.
- (3) Check door operation, including the tailgate and **REJECT IF** one or more of the following apply:
- (i) The doors are not on the vehicle if originally fitted by manufacturer.
- (ii) The doors, including the tailgate, cannot be closed securely.
- (iii) Tailgate or equivalent is not on the vehicle, unless removed for the addition of optional equipment that is present at the time of inspection.
- (4) Check the lamps and lenses and **REJECT IF** one or more of the following apply:
- (i) An exterior bulb or sealed beam, if originally equipped or installed, fails to light properly, except ornamental lights.
- (ii) The turn signal lamps do not flash between 60-120 flashes per minute.
- (iii) The turn signal lamps do not properly indicate right or left when so switched.
- (iv) The back-up lamps do not turn off automatically when the vehicle goes forward.
- (v) The lamp shows a color contrary to law as specified in lighting chart—Tables II - IV (relating to required motor vehicle lighting equipment; location of required equipment; and required motor vehicle lighting equipment).
- (vi) A lamp or filament indicated at the switch position does not light when the correct switch indicates the lamp should be on.
- (vii) A lamp has a missing or broken lens.
- (viii) A required lamp is missing.
- (ix) Auxiliary equipment is placed on, in, or in front of a lamp.

- (x) Detachable electrical connections are not contained in the cable or cables or entirely within substantially constructed protection device.
- (b) **Internal Inspection** - An internal inspection of a trailer over 3,000 pounds registered gross weight shall be performed as follows:
- (1) Check the flooring and **REJECT IF** any of the following apply:
 - (i) The flooring and floor beds are not in a condition to support cargo.
 - (ii) On passenger-carrying trailers **REJECT IF** any of the following apply:
 - (A) The flooring and floor beds are not substantially constructed to support occupants and cargo. The floor pan is rusted through to cause hazard to occupants or to permit exhaust gases to enter passenger compartment.
 - (B) The step well or floor is cluttered or worn so as to present tripping hazard.
 - (C) The guard rails or grab rails are loose or fastening parts are missing.
 - (D) The emergency exit is not easily accessible.
 - (E) The inside or outside quick release mechanism on emergency doors or windows on passenger-carrying trailer fail to function properly or open accidentally.
- (c) **Beneath the Vehicle Inspection** - A beneath the vehicle inspection of a trailer over 3,000 pounds registered gross weight shall be performed as follows:
- (1) Inspect tires and wheels and **REJECT IF** one or more of the following apply:
 - (i) A tire has two adjacent treads with less than 2/32 inches tread remaining at any point.
 - (ii) The tire is worn so that tread wear indicators contact road in any two adjacent grooves.
 - (iii) Part of the ply or cord is exposed.
 - (iv) A tire has been repaired with blow-out patch or boot.
 - (v) There is a bump, bulge or separation.
 - (vi) The tire is marked "not for highway use," "for racing purposes only" or "unsafe for highway use," or has any similar designation.
 - (vii) There are other conditions or markings reasonably believed to render tire unsafe for highway use.
 - (viii) A tire has been regrooved or recut below original tread design depth.
 - (ix) A tire extends beyond body line, a tire is smaller than the manufacturer's recommended minimum size, or below the manufacturer's recommended load rating or a tire makes contact with the body or chassis.
 - (x) Tires on same axle are not the same size or type of construction—bias, belted, or radial.
 - (xi) The wheel nuts or bolts are missing or loose or have improper thread engagement.
 - (xii) The stud or bolt holes are worn out of round.
 - (xiii) Part of the wheel is bent, cracked, welded or damaged so as to affect safe operation of vehicle.
 - (xiv) Studded tires are in use after April 15 and before November 1.
 - (xv) The diameter of duals is not within 3/8 inch of each other.
 - (xvi) An axle has missing tires or rims.
 - (2) Inspect the vehicle frame and **REJECT IF** one or more of the following apply:
 - (i) The vehicle frame is not in solid condition.
 - (ii) A repair is made with tape, tar paper or cloth or is made in any another temporary manner.
 - (iii) The frame components are missing cracked, rotted, or broken or in deteriorated or dangerous condition.

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- (iv) There is no rear end protrusion which is within 24 inches of the rear of the trailer and within 30 inches of the ground and within 18 inches of each side.
 - (v) Torn metal or other loose or dislocated parts protrude from the surface of body.
 - (vi) The tailgate or doors are broken or sagging so that the doors cannot be tightly closed.
 - (vii) The landing gear parts are broken or missing and the gear is not operating properly.
 - (viii) The rear wheel shields or mud flaps are not mounted properly. Every trailer must be equipped with rear wheel shields to bar water or other substances thrown from rear wheels at tangents exceeding 22 1/2 degrees, measured from road surface, from passing in straight line to rear.
 - (ix) The king pin has excessive wear.
 - (x) There are cracks in the contact area on the 5th wheel plate.
 - (xi) An adjustable axle assembly has locking pins missing or not engaged.
 - (xii) A torsion bar spring is broken.
 - (xiii) A part of a torque, radius or tracking component assembly or a part used for attaching the same to the vehicle frame or axle is cracked, loose, broken or missing. This subparagraph does not apply to loose bushings in torque or track rods.
- (3) Inspect the braking system.
- (i) Inspect braking system and **REJECT IF** one or more of the following apply:
 - (A) The bonded linings are less than 2/32 inch at the thinnest point.
 - (B) The riveted linings are less than 1/32 inch above the rivet head at the thinnest point.
 - (C) The lining on a semi-trailer is less than 5/16 inch at the center of the shoe.
 - (D) The lining is broken; not firmly attached to the shoe; or contaminated with oil, grease or another substance that would affect proper brake operation.
 - (E) There are substantial cracks on the friction surface of a drum extending to an open edge.
 - (F) There is wear to such an extent that the brake cam is on end or cam has turned over.
 - (G) The brake shoe rollers are worn and flattened so as to interfere with brake operation.
 - (H) The air chamber push rod travel exceeds maximum stroke allowance. See Chart 4 (relating to brake chamber push rod travel (typical)) for a drawing of the air chamber push rod.
 - (I) The hydraulic hoses or tubing leaks; is flattened, restricted, insecurely fastened or improperly retained; or has exposed cords.
 - (J) The brake hoses, lines or tubing is leaking, chaffed, restricted, crimped, cracked or broken.
 - (K) The surge brake system is leaking.
 - (L) There is leakage in the lines or cylinders, reservoirs, hydraulic, vacuum or air brake systems.
 - (M) There is no control from the cab of the towing vehicle.
 - (N) The brakes are not equalized to stop the vehicle from swerving when tested in combination with the trailer.
 - (O) The brakes fail to apply automatically on disconnection with the tractor.
 - (P) The surge brake system is defective.
 - (Q) The maximum amperage on the electric brakes is more than 20% above or more than 30% below the brake manufacturers' maximum current rating.
 - (R) All wheels are not equipped with brakes.
 - (S) The drums are scored deeper than .060 inch.

(T) The brake hoses bulge or swell under application of pressure.

(U) The connecting hoses are improperly joined; for example, a splice made by sliding the hose ends over a piece of tubing and clamping the hose to the tube.

(ii) The brake lining from one side of each axle shall be examined.

(4) Inspect the air suspension system and **REJECT IF** the system is leaking or deflated.

(d) Road Test - Perform a road test of a trailer over 3,000 pounds registered gross weight and reject if the vehicle is not capable of stopping within the maximum stopping distance prescribed in Table I or swerves so that any part leaves the 12 foot lane.