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393.136 Specific securement requirements for large boulders.

Subpart J—Frames, Cab and Body Components, Wheels, Steering, and Suspension Systems

393.201 Frames.
393.203 Cab and body components.
393.205 Wheels.
393.207 Suspension systems.
393.209 Steering wheel systems.

AUTHORITY: 49 U.S.C. 31136, 31151, 31502; sec. 1041(b), Pub. L. 102–240, 105 Stat. 1914, 1993; secs. 5301 and 5524, Pub. L. 114–94, 129 Stat. 1312, 1543, 1560; and 49 CFR 1.87.

SOURCE: 33 FR 19735, Dec. 25, 1968, unless otherwise noted.

EDITORIAL NOTE: Nomenclature changes to part 393 appear at 66 FR 49874, Oct. 1, 2001.

Subpart A—General

SOURCE: 53 FR 49384, Dec. 7, 1988, unless otherwise noted.

§ 393.1 Scope of the rules in this part.

(a) The rules in this part establish minimum standards for commercial motor vehicles as defined in § 390.5 of this title. Only motor vehicles (as defined in § 390.5) and combinations of motor vehicles which meet the definition of a commercial motor vehicle are subject to the requirements of this part. All requirements that refer to motor vehicles with a GVWR below 4,536 kg (10,001 pounds) are applicable only when the motor vehicle or combination of motor vehicles meets the definition of a commercial motor vehicle.

(b)(1) Every motor carrier and its employees must be knowledgeable of and comply with the requirements and specifications of this part.

(2) Every intermodal equipment provider and its employees or agents responsible for the inspection, repair, and maintenance of intermodal equipment interchanged to motor carriers must be knowledgeable of and comply with the applicable requirements and specifications of this part.

(c) No motor carrier may operate a commercial motor vehicle, or cause or permit such vehicle to be operated, unless it is equipped in accordance with the requirements and specifications of this part.

(d) No intermodal equipment provider may operate intermodal equipment, or cause or permit such equipment to be operated, unless it is equipped in accordance with the requirements and specifications of this part.

(e) The rules in this part do not apply to ''pipeline welding trucks'' as defined in 49 CFR 390.38(b).

[70 FR 48025, Aug. 15, 2005, as amended at 73 FR 76823, Dec. 17, 2008; 81 FR 47721, July 22, 2016]

§ 393.3 Additional equipment and accessories.

The use of additional equipment or accessories in a manner that decreases the safety of operation of a commercial motor vehicle in interstate commerce is prohibited. Nothing contained in this subchapter shall be construed to prohibit the use of additional equipment and accessories, not inconsistent with or prohibited by this subchapter, provided such equipment and accessories do not decrease the safety of operation of the motor vehicles on which they are used.

[78 FR 58484, Sept. 24, 2013]

§ 393.5 Definitions.

As used in this part, the following words and terms are construed to mean:

Aggregate working load limit. The summation of the working load limits or restraining capacity of all devices used to secure an article of cargo on a vehicle.

Agricultural commodity trailer. A trailer that is designed to transport bulk agricultural commodities in off-road harvesting sites and to a processing plant or storage location, as evidenced by skeletal construction that accommodates harvest containers, a maximum length of 28 feet, and an arrangement of air control lines and reservoirs that minimizes damage in field operations.

Air brake system. A system, including an air-over-hydraulic brake subsystem, that uses air as a medium for transmitting pressure or force from the driver control to the service brake, but does not include a system that uses compressed air or vacuum only to assist

the driver in applying muscular force to hydraulic or mechanical components.

Air-over-hydraulic brake subsystem. A subsystem of the air brake system that uses compressed air to transmit a force from the driver control to a hydraulic brake system to actuate the service brakes.

Anchor point. Part of the structure, fitting or attachment on a vehicle or article of cargo to which a tiedown is attached.

Antilock Brake System or *ABS* means a portion of a service brake system that automatically controls the degree of rotational wheel slip during braking by:

(1) Sensing the rate of angular rotation of the wheels;

(2) Transmitting signals regarding the rate of wheel angular rotation to one or more controlling devices which interpret those signals and generate responsive controlling output signals; and

(3) Transmitting those controlling signals to one or more modulators which adjust brake actuating forces in response to those signals.

Article of cargo. A unit of cargo, other than a liquid, gas, or aggregate that lacks physical structure (e.g., grain, gravel, etc.) including articles grouped together so that they can be handled as a single unit or unitized by wrapping, strapping, banding or edge protection device(s).

Auxiliary driving lamp. A lighting device mounted to provide illumination forward of the vehicle which supplements the upper beam of a standard headlighting system. It is not intended for use alone or with the lower beam of a standard headlamp system.

Bell pipe concrete. Pipe whose flanged end is of larger diameter than its barrel.

Blocking. A structure, device or another substantial article placed against or around an article of cargo to prevent horizontal movement of the article of cargo.

Boat trailer. A trailer designed with cradle-type mountings to transport a boat and configured to permit launching of the boat from the rear of the trailer.

Bracing. A structure, device, or another substantial article placed against an article of cargo to prevent it from tipping, that may also prevent it from shifting.

Brake. An energy conversion mechanism used to stop, or hold a vehicle stationary.

Brake power assist unit. A device installed in a hydraulic brake system that reduces the operator effort required to actuate the system, but which if inoperative does not prevent the operator from braking the vehicle by a continued application of muscular force on the service brake control.

Brake power unit. A device installed in a brake system that provides the energy required to actuate the brakes, either directly or indirectly through an auxiliary device, with the operator action consisting only of modulating the energy application level.

Brake tubing/hose. Metallic brake tubing, nonmetallic brake tubing and brake hose are conduits or lines used in a brake system to transmit or contain the medium (fluid or vacuum) used to apply the motor vehicle's brakes.

Chassis. The load-supporting frame of a commercial motor vehicle, exclusive of any appurtenances which might be added to accommodate cargo.

Clearance Lamps. Lamps that provide light to the front or rear, mounted on the permanent structure of the vehicle, such that they indicate the overall width of the vehicle.

Container chassis trailer. A semitrailer of skeleton construction limited to a bottom frame, one or more axles, specially built and fitted with locking devices for the transport of intermodal cargo containers, so that when the chassis and container are assembled, the units serve the same function as an over the road trailer.

Converter dolly. A motor vehicle consisting of a chassis equipped with one or more axles, a fifth wheel and/or equivalent mechanism, and drawbar, the attachment of which converts a semitrailer to a full trailer.

Crib-type log trailer means a trailer equipped with stakes, bunks, a front-end structure, and a rear structure to restrain logs. The stakes prevent movement of the logs from side to side on the vehicle while the front-end and

rear structures prevent movement of the logs from front to back on the vehicle.

Curb weight. The weight of a motor vehicle with standard equipment, maximum capacity of fuel, oil, and coolant; and, if so equipped, air conditioning and additional weight of optional engine. Curb weight does not include the driver.

Dunnage. All loose materials used to support and protect cargo.

Dunnage bag. An inflatable bag intended to fill otherwise empty space between articles of cargo, or between articles of cargo and the wall of the vehicle.

Edge protector. A device placed on the exposed edge of an article to distribute tiedown forces over a larger area of cargo than the tiedown itself, to protect the tie-down and/or cargo from damage, and to allow the tiedown to slide freely when being tensioned.

Electric brake system. A system that uses electric current to actuate the service brake.

Emergency brake. A mechanism designed to stop a motor vehicle after a failure of the service brake system.

Emergency brake system. A mechanism designed to stop a vehicle after a single failure occurs in the service brake system of a part designed to contain compressed air or brake fluid or vacuum (except failure of a common valve, manifold brake fluid housing or brake chamber housing).

Fifth wheel. A device mounted on a truck tractor or similar towing vehicle (e.g., converter dolly) which interfaces with and couples to the upper coupler assembly of a semitrailer.

Frame vehicle. A vehicle with skeletal structure fitted with one or more bunk units for transporting logs. A bunk unit consists of U-shaped front and rear bunks that together cradle logs. The bunks are welded, gusseted or otherwise firmly fastened to the vehicle's main beams, and are an integral part of the vehicle.

Friction mat. A device placed between the deck of a vehicle and article of cargo, or between articles of cargo, intended to provide greater friction than exists naturally between these surfaces.

Front fog lamp. A lighting device whose beam provides downward illumination forward of the vehicle and close to the ground, and is to be used only under conditions of rain, snow, dust, smoke or fog. A pair of fog lamps may be used alone, with parking, tail, side, marker, clearance and identification lamps, or with a lower beam headlamp at the driver's discretion in accordance with state and local use law.

Fuel tank fitting. Any removable device affixed to an opening in the fuel tank with the exception of the filler cap.

g. The acceleration due to gravity, 32.2 ft/sec^2 (9.81 m/sec^2).

Grommet. A device that serves as a support and protection to that which passes through it.

Hazard warning signal. Lamps that flash simultaneously to the front and rear, on both the right and left sides of a commercial motor vehicle, to indicate to an approaching driver the presence of a vehicular hazard.

Head lamps. Lamps used to provide general illumination ahead of a motor vehicle.

Heater. Any device or assembly of devices or appliances used to heat the interior of any motor vehicle. This includes a catalytic heater which must meet the requirements of §177.834(l)(2) of this title when Class 3 (flammable liquid) or Division 2.1 (flammable gas) is transported.

Heavy hauler trailer. A trailer which has one or more of the following characteristics, but which is not a container chassis trailer:

(1) Its brake lines are designed to adapt to separation or extension of the vehicle frame; or

(2) Its body consists only of a platform whose primary cargo-carrying surface is not more than 1,016 mm (40 inches) above the ground in an unloaded condition, except that it may include sides that are designed to be easily removable and a permanent ''front-end structure'' as that term is used in §393.106 of this title.

Hook-lift container. A specialized container, primarily used to contain and transport materials in the waste, recycling, construction/demolition and

scrap industries, which is used in conjunction with specialized vehicles, in which the container is loaded and unloaded onto a tilt frame body by an articulating hook-arm.

Hydraulic brake system. A system that uses hydraulic fluid as a medium for transmitting force from a service brake control to the service brake, and that may incorporate a brake power assist unit, or a brake power unit.

Identification lamps. Lamps used to identify certain types of commercial motor vehicles.

Integral securement system. A system on certain roll-on/roll-off containers and hook-lift containers and their related transport vehicles in which compatible front and rear hold down devices are mated to provide securement of the complete vehicle and its articles of cargo.

Lamp. A device used to produce artificial light.

Length of a manufactured home. The largest exterior length in the traveling mode, including any projections which contain interior space. Length does not include bay windows, roof projections, overhangs, or eaves under which there is no interior space, nor does it include drawbars, couplings or hitches.

License plate lamp. A lamp used to illuminate the license plate on the rear of a motor vehicle.

Longwood. All logs, including utility poles, that are not shortwood, *i.e.,* are over 4.9 m (16 feet) long. Such logs are usually described as long logs or treelength.

Low chassis vehicle. (1) A trailer or semitrailer manufactured on or after January 26, 1998, having a chassis which extends behind the rearmost point of the rearmost tires and which has a lower rear surface that meets the guard width, height, and rear surface requirements of §571.224 in effect on the date of manufacture, or a subsequent edition.

(2) A motor vehicle, not described by paragraph (1) of this definition, having a chassis which extends behind the rearmost point of the rearmost tires and which has a lower rear surface that meets the guard configuration requirements of §393.86(b)(1).

Major tread groove is the space between two adjacent tread ribs or lugs on a tire that contains a tread wear indicator or wear bar. (In most cases, the locations of tread wear indicators are designated on the upper sidewall/shoulder of the tire on original tread tires.)

Manufactured home means a structure, transportable in one or more sections, which in the traveling mode, is eight body feet or more in width or forty body feet or more in length, or, when erected on site, is three hundred twenty or more square feet, and which is built on a permanent chassis and designed to be used as a dwelling with or without a permanent foundation when connected to the required utilities, and includes the plumbing, heating, air-conditioning, and electrical systems contained therein. Calculations used to determine the number of square feet in a structure will be based on the structure's exterior dimensions measured at the largest horizontal projections when erected on site. These dimensions will include all expandable rooms, cabinets, and other projections containing interior space, but do not include bay windows. This term includes all structures which meet the *above* requirements except the size requirements and with respect to which the manufacturer voluntarily files a certification pursuant to 24 CFR 3282.13 and complies with the standards set forth in 24 CFR part 3280.

Metal coil means an article of cargo comprised of elements, mixtures, compounds, or alloys commonly known as metal, metal foil, metal leaf, forged metal, stamped metal, metal wire, metal rod, or metal chain that are packaged as a roll, coil, spool, wind, or wrap, including plastic or rubber coated electrical wire and communications cable

Multi-piece windshield. A windshield consisting of two or more windshield glazing surface areas.

Parking brake system. A mechanism designed to prevent the movement of a stationary motor vehicle.

Play. Any free movement of components.

Pulpwood trailer. A trailer or semitrailer that is designed exclusively for harvesting logs or pulpwood and constructed with a skeletal frame with no means for attachment of a solid bed, body, or container.

Rail vehicle. A vehicle whose skeletal structure is fitted with stakes at the front and rear to contain logs loaded crosswise.

Rear extremity. The rearmost point on a motor vehicle that falls above a horizontal plane located 560 mm (22 inches) above the ground and below a horizontal plane located 1,900 mm (75 inches) above the ground when the motor vehicle is stopped on level ground; unloaded; its fuel tanks are full; the tires (and air suspension, if so equipped) are inflated in accordance with the manufacturer's recommendations; and the motor vehicle's cargo doors, tailgate, or other permanent structures are positioned as they normally are when the vehicle is in motion. Nonstructural protrusions such as taillamps, rubber bumpers, hinges and latches are excluded from the determination of the rearmost point.

Reflective material. A material conforming to Federal Specification L-S-300, ''Sheeting and Tape, Reflective; Non-exposed Lens, Adhesive Backing,'' (September 7, 1965) meeting the performance standard in either Table 1 or Table 1A of SAE Standard J594f, ''Reflex Reflectors'' (January, 1977).

Reflex reflector. A device which is used on a vehicle to give an indication to an approaching driver by reflected lighted from the lamps on the approaching vehicle.

Road construction controlled horizontal discharge trailer means a trailer or semitrailer that is equipped with a mechanical drive and a conveyor to deliver asphalt and other road building materials, in a controlled horizontal manner, into a lay down machine or paving equipment for road construction and paving operations.

Saddle-mount. A device, designed and constructed as to be readily demountable, used in driveaway-towaway operations to perform the functions of a conventional fifth wheel:

(1) Upper-half. *Upper-half* of a ''saddle-mount'' means that part of the device which is securely attached to the towed vehicle and maintains a fixed position relative thereto, but does not include the ''king-pin;''

(2) Lower-half. *Lower-half* of a ''saddle-mount'' means that part of the device which is securely attached to the towing vehicle and maintains a fixed position relative thereto but does not include the ''king-pin;'' and

(3) King-pin. *King-pin* means that device which is used to connect the ''upper-half'' to the ''lower-half'' in such manner as to permit relative movement in a horizontal plane between the towed and towing vehicles.

Service brake system. A primary brake system used for slowing and stopping a vehicle.

Shoring bar. A device placed transversely between the walls of a vehicle and cargo to prevent cargo from tipping or shifting.

Shortwood. All logs typically up to 4.9 m (16 feet) long. Such logs are often described as cut-up logs, cut-to-length logs, bolts or pulpwood. Shortwood may be loaded lengthwise or crosswise, though that loaded crosswise is usually no more than 2.6 m (102 inches) long.

Sided vehicle. A vehicle whose cargo compartment is enclosed on all four sides by walls of sufficient strength to contain articles of cargo, where the walls may include latched openings for loading and unloading, and includes vans, dump bodies, and a sided intermodal container carried by a vehicle.

Side extremity. The outermost point on a side of the motor vehicle that is above a horizontal plane located 560 mm (22 inches) above the ground, below a horizontal plane located 1,900 mm (75 inches) above the ground, and between a transverse vertical plane tangent to the rear extremity of the vehicle and a transverse vertical plane located 305 mm (12 inches) forward of that plane when the vehicle is unloaded; its fuel tanks are full; and the tires (and air suspension, if so equipped) are inflated in accordance with the manufacturer's recommendations. Non-structural protrusions such as taillights, hinges and latches are excluded from the determination of the outermost point.

Side marker lamp (Intermediate). A lamp mounted on the side, on the permanent structure of the motor vehicle that provides light to the side to indicate the approximate middle of the vehicle, when the motor vehicle is 9.14 meters (30 feet) or more in length.

Side marker lamps. Lamps mounted on the side, on the permanent structure of

the motor vehicle as near as practicable to the front and rear of the vehicle, that provide light to the side to indicate the overall length of the motor vehicle.

Special purpose vehicle. (1) A trailer or semitrailer manufactured on or after January 26, 1998, having work-performing equipment that, while the motor vehicle is in transit, resides in or moves through the area that could be occupied by the horizontal member of the rear impact guard, as defined by the guard width, height and rear surface requirements of §571.224 (paragraphs S5.1.1 through S5.1.3), in effect on the date of manufacture, or a subsequent edition.

(2) A motor vehicle, not described by paragraph (1) of this definition, having work-performing equipment that, while the motor vehicle is in transit, resides in or moves through the area that could be occupied by the horizontal member of the rear impact guard, as defined by the guard width, height and rear surface requirements of §393.86(b)(1).

Split service brake system. A brake system consisting of two or more subsystems actuated by a single control designed so that a leakage-type failure of a pressure component in a single subsystem (except structural failure of a housing that is common to two or more subsystems) shall not impair the operation of any other subsystem.

Steering wheel lash. The condition in which the steering wheel may be turned through some part of a revolution without associated movement of the front wheels.

Stop lamps. Lamps shown to the rear of a motor vehicle to indicate that the service brake system is engaged.

Surge brake. A self-contained, permanently closed hydraulic brake system for trailers that relies on inertial forces, developed in response to the braking action of the towing vehicle, applied to a hydraulic device mounted on or connected to the tongue of the trailer, to slow down or stop the towed vehicle.

Tail lamps. Lamps used to designate the rear of a motor vehicle.

Tiedown. A combination of securing devices which forms an assembly that attaches articles of cargo to, or restrains articles of cargo on, a vehicle or trailer, and is attached to anchor point(s).

Tow bar. A strut or column-like device temporarily attached between the rear of a towing vehicle and the front of the vehicle being towed.

Tractor-pole trailer. A combination vehicle that carries logs lengthwise so that they form the body of the vehicle. The logs are supported by a bunk located on the rear of the tractor, and another bunk on the skeletal trailer. The tractor bunk may rotate about a vertical axis, and the trailer may have a fixed, scoping, or cabled reach, or other mechanical freedom, to allow it to turn.

Trailer kingpin. A pin (with a flange on its lower end) which extends vertically from the front of the underside of a semitrailer and which locks into a fifth wheel.

Turn signals. Lamps used to indicate a change in direction by emitting a flashing light on the side of a motor vehicle towards which a turn will be made.

Upper coupler assembly. A structure consisting of an upper coupler plate, king-pin and supporting framework which interfaces with and couples to a fifth wheel.

Upper coupler plate. A plate structure through which the king-pin neck and collar extend. The bottom surface of the plate contacts the fifth wheel when coupled.

Vacuum brake system. A system that uses a vacuum and atmospheric pressure for transmitting a force from the driver control to the service brake, not including a system that uses vacuum only to assist the driver in applying muscular force to hydraulic or mechanical components.

Vehicle safety technology. Vehicle safety technology includes systems and items of equipment to promote driver, occupant, and roadway safety. Examples of vehicle safety technology systems and devices include a fleet-related incident management system, performance or behavior management system, speed management system, lane departure warning system, forward collision warning or mitigation system, active cruise control system, transponder, braking warning system, braking assist

system, driver camera system, attention assist warning, Global Positioning Systems, and traffic sign recognition. Vehicle safety technology includes systems and devices that contain cameras, lidar, radar, sensors, and/or video.

Void filler. Material used to fill a space between articles of cargo and the structure of the vehicle that has sufficient strength to prevent movement of the articles of cargo.

Well. The depression formed between two cylindrical articles of cargo when they are laid with their eyes horizontal and parallel against each other.

Wheels back vehicle. (1) A trailer or semitrailer manufactured on or after January 26, 1998, whose rearmost axle is permanently fixed and is located such that the rearmost surface of the tires (of the size recommended by the vehicle manufacturer for the rear axle) is not more than 305 mm (12 inches) forward of the transverse vertical plane tangent to the rear extremity of the vehicle.

(2) A motor vehicle, not described by paragraph (1) of this definition, whose rearmost axle is permanently fixed and is located such that the rearmost surface of the tires (of the size recommended by the vehicle manufacturer for the rear axle) is not more than 610 mm (24 inches) forward of the transverse vertical plane tangent to the rear extremity of the vehicle.

Width of a manufactured home. The largest exterior width in the traveling mode, including any projections which contain interior space. Width does not include bay windows, roof projections, overhangs, or eaves under which there is no interior space.

Windshield. The principal forward facing glazed surface provided for forward vision in operating a motor vehicle.

Working load limit (WLL). The maximum load that may be applied to a component of a cargo securement system during normal service, usually assigned by the manufacturer of the component.

[53 FR 49384, Dec. 7, 1988, as amended at 63 FR 8339, Feb. 18, 1998; 63 FR 24465, May 4, 1998; 64 FR 47707, Sept. 1, 1999; 67 FR 61224, Sept. 27, 2002; 68 FR 56208, Sept. 30, 2003; 70 FR 48026, Aug. 15, 2005; 71 FR 35832, June 22, 2006; 72 FR 9870, Mar. 6, 2007; 81 FR 47731, July 22, 2016; 81 FR 65574, Sept. 23, 2016; 86 FR 62111, Nov. 9, 2021; 87 FR 12604, Mar. 7, 2022; 89 FR 90623, Nov. 18, 2024]

§ 393.7 Matter incorporated by reference.

(a) *Incorporation by reference*. Part 393 includes references to certain matter or materials, as listed in paragraph (b) of this section. The text of the materials is not included in the regulations contained in part 393. The materials are hereby made a part of the regulations in part 393. The Director of the Federal Register has approved the materials incorporated by reference in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. For materials subject to change, only the specific version approved by the Director of the Federal Register and specified in the regulation are incorporated. Material is incorporated as it exists on the date of the approval and a notice of any change in these materials will be published in the FEDERAL REGISTER.

(b) *Matter or materials referenced in part 393*. The matter or materials listed in this paragraph are incorporated by reference in the corresponding sections noted.

(1) Auxiliary Upper Beam Lamps, Society of Automotive Engineers (SAE) J581, July 2004, incorporation by reference approved for § 393.24(b).

(2) Front Fog Lamp, SAE J583, August 2004, incorporation by reference approved for § 393.24(b).

(3) Stop Lamps for Use on Motor Vehicles Less Than 2032 mm in Overall Width, SAE J586, March 2000, incorporation by reference approved for § 393.25(c).

(4) Stop Lamps and Front- and Rear-Turn Signal Lamps for Use on Motor Vehicles 2032 mm or more in Overall Width, SAE J2261, January 2002, incorporated by reference approved for § 393.25 (c).

(5) Tail Lamps (Rear Position Lamps) for Use on Motor Vehicles Less Than 2032 mm in Overall Width, SAE J585,