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SENATE HIGHWAYS AND TRANSPORTATION
EXHIBIT NO. 3
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§ 393.100 Which types of commercial motor vehicles are subject to the cargo securement standards of this subpart, and what general requirements apply?

(a) *Applicability.* The rules in this subpart are applicable to trucks, truck tractors, semitrailers, full trailers, and pole trailers.

(b) *Prevention against loss of load.* Each commercial motor vehicle must, when transporting cargo on public roads, be loaded and equipped, and the cargo secured, in accordance with this subpart to prevent the cargo from leaking, spilling, blowing or falling from the motor vehicle.

(c) *Prevention against shifting of load.* Cargo must be contained, immobilized or secured in accordance with this subpart to prevent shifting upon or within the vehicle to such an extent that the vehicle's stability or maneuverability is adversely affected.

§ 393.102 What are the minimum performance criteria for cargo securement devices and systems?

(a) *Performance criteria.* Cargo securement devices and systems must be capable of withstanding the following three forces, applied separately:

(1) 0.8 g deceleration in the forward direction;

(2) 0.5 g acceleration in the rearward direction; and

(3) 0.5 g acceleration in a lateral direction.

(b) *Performance criteria for devices to prevent vertical movement of loads that are not contained within the structure of the vehicle.* Securement systems must provide a downward force equivalent to at least 20 percent of the weight of the article of cargo if the article is not fully contained within the structure of the vehicle. If the article is fully contained within the structure of the vehicle, it may be secured in accordance with § 393.106(b).

(c) *Prohibition on exceeding working load limits.* Cargo securement devices and systems must be designed, installed, and maintained to ensure that the maximum forces acting on the devices or systems do not exceed the working load limit for the devices under the conditions listed in paragraphs (a) and (b) of this section.

(d) *Equivalent means of securement.* Cargo that is immobilized, or secured in accordance with the applicable requirements of §§ 393.104 through 393.136, is considered as meeting the performance criteria of this section.

§ 393.104 What standards must cargo securement devices and systems meet in order to satisfy the requirements of this subpart?

(a) *General.* All devices and systems used to secure cargo to or within a vehicle must be capable of meeting the requirements of § 393.102.

(b) *Prohibition on the use of damaged securement devices.* All vehicle structures, systems, parts, and components used to secure cargo must be in proper working order when used to perform that function with no damaged or weakened components that will adversely effect their performance for cargo securement purposes, including reducing the working load limit, and must not have any cracks or cuts.

(c) *Vehicle structures and anchor points.* Vehicle structures, floors, walls, decks, tiedown anchor points, headerboards, bulkheads, stakes, posts and associated mounting pockets used to contain or secure articles of cargo must be strong enough to meet the performance criteria of § 393.102, with no damaged or weakened components that will adversely effect their performance for cargo securement purposes, including reducing the working load limit, and must not have any cracks or cuts.

(d) *Material for dunnage, chocks, cradles, shoring bars, blocking and bracing.* Material used as dunnage or dunnage bags, chocks, cradles, shoring bars, or used for blocking and bracing, must not have damage or defects which would compromise the effectiveness of the securement system.

(e) *Manufacturing standards for tiedown assemblies.* Tiedown assemblies (including chains, wire rope, steel strapping, synthetic webbing, and cordage) and other attachment or fastening devices used to secure articles of cargo to, or in, commercial motor vehicles must conform to the following applicable standards:

An assembly component of . . .	Must conform to . . .
(1) Steel strapping [1,2]	Standard Specification for Strapping, Flat Steel and Seals, American Society for Testing and Materials (ASTM) D3953–97, February 1998.[4]
(2) Chain	National Association of Chain Manufacturers' Welded Steel Chain Specifications, November 15, 1999.[4]
(3) Webbing	Web Sling and Tiedown Association's Recommended Standard Specification for Synthetic Web Tiedowns, WSTDA–T1, 1998.[4]
(4) Wire rope [3]	Wire Rope Technical Board's Wire Rope Users Manual, 2nd Edition, November 1985.[4]
(5) Cordage	Cordage Institute rope standard: (i) PETRS–2, Polyester Fiber Rope, three-Strand and eight-Strand Constructions, January 1993;[4] (ii) PPRS–2, Polypropylene Fiber Rope, three-Strand and eight-Strand Constructions, August 1992;[4] (iii) CRS–1, Polyester/Polypropylene Composite Rope Specifications, three-Strand and eight-Strand Standard Construction, May 1979;[4] (iv) NRS–1, Nylon Rope Specifications, three-Strand and eight-Strand Standard Construction, May 1979;[4] and