

# *The Security of Loads and Trip Inspection Regulations*

*Repealed*

by [Chapter H-3.01 Reg 11](#) (effective April 25, 2013)

*Formerly*

[Chapter H-3.01 Reg 4](#) (effective April 6, 2005).

## **NOTE:**

**This consolidation is not official. Amendments have been incorporated for convenience of reference and the original statutes and regulations should be consulted for all purposes of interpretation and application of the law. In order to preserve the integrity of the original statutes and regulations, errors that may have appeared are reproduced in this consolidation.**

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## CHAPTER H-3.01 REG 4

### *The Highways and Transportation Act, 1997*

#### PART I

##### **Title and Interpretation**

###### **Title**

1 These regulations may be cited as *The Security of Loads and Trip Inspection Regulations*.

###### **Interpretation**

2(1) In these regulations:

- (a) **“Appendix”** means an Appendix to these regulations;
- (b) **“commercial vehicle”** means, subject to Part III, a vehicle that:
  - (i) is used to transport goods or passengers; and
  - (ii) is:
    - (A) a truck, truck tractor or trailer, or combination of them, that has a registered gross vehicle weight of more than 5 000 kilograms; or
    - (B) a bus that is designed and constructed to have a seating capacity, including the driver, of more than 10 people;
- (c) **“figure”** means the appropriate figure contained in Appendix B;
- (d) **“vehicle”** includes commercial vehicle.

(2) In interpreting Appendix A, **“vehicle”** is to be interpreted as referring only to commercial vehicles.

15 Apr 2005 cH-3.01 Reg 4 s2.

#### PART II

##### **Security of Loads**

###### **Cargo securement**

3(1) In this Part, **“cargo”** means cargo as defined in Appendix A.

(2) Every registered owner and every driver of a commercial vehicle operated on a public highway and transporting cargo shall comply with this Part and the standards set out in Appendix A.

15 Apr 2005 cH-3.01 Reg 4 s3.

**H-3.01 REG 4 SECURITY OF LOADS AND TRIP INSPECTION****Transportation of round bales**

4 If a commercial vehicle is transporting round bales, the registered owner or driver shall ensure that the bales are secured in accordance with section 3 or in accordance with the following requirements:

- (a) in the case of round bales loaded pipe style:
  - (i) by loading one bale over two bales or two bales side by side loaded parallel to the length of the commercial vehicle, in accordance with Figure 1 of Appendix B, with one tie-down assembly across each bale; or
  - (ii) by securing the load with a minimum of three tie-down assemblies, one across the top bales at the front of the load and two across the top bales at the rear of the load, if:
    - (A) the round bales are securely made;
    - (B) the commercial vehicle is equipped with an attached framework blocking that is 45.7 centimetres in width and that runs the full length of the commercial vehicle on both sides; and
    - (C) each framework mentioned in paragraph (B) is raised at a 45 degree angle to prevent lateral movement;
- (b) in the case of round bales loaded perpendicular style:
  - (i) by loading one bale over two bales, two bales over two bales or only two bales crossways on the commercial vehicle, in accordance with Figure 2 of Appendix B with:
    - (A) one tie-down assembly across each top bale; and
    - (B) one tie-down assembly running the length of the load over each top bale; or
  - (ii) by securing the load with a tie-down assembly across each top bale if:
    - (A) the round bales are securely made; and
    - (B) the commercial vehicle is equipped with blocking that is 45.7 centimetres high and that runs across the full width of the commercial vehicle deck at the front and rear of the commercial vehicle to prevent forward and rearward movement of the load, in accordance with Figure 3 of Appendix B.

15 Apr 2005 cH-3.01 Reg 4 s4.

**Loads on commercial vehicle combinations**

5(1) In this section, “**fifth wheel coupler**” means a coupling device that:

- (a) is securely attached to the chassis of a commercial vehicle;
- (b) will accept a semi-trailer kingpin inserted through the device; and
- (c) will lock the kingpin mentioned in clause (b) in position to allow rotation in a horizontal plane through the coupling device.

(2) No person shall operate any combination of commercial vehicles on which a load is carried, where the load is supported by more than one commercial vehicle in the combination, unless:

- (a) the combination of commercial vehicles carrying the load consists of a pole trailer equipped with a compensating reach;
- (b) the load is supported at an articulation point in the combination of commercial vehicles by:
  - (i) a fifth wheel coupler and a kingpin;
  - (ii) a pintle hook and a lunette eye assembly; or
  - (iii) a turntable or swivel bunk; or
- (c) the load is supported in a way that protects it against shifting or falling and that is at least as effective as the means prescribed in clauses (a) and (b).

15 Apr 2005 cH-3.01 Reg 4 s5.

### PART III Trip Inspections

#### Interpretation of Part

**6** In this Part, “**commercial vehicle**” does not include the following:

- (a) a two or three axle farm truck, when used in farming operations;
- (b) an emergency vehicle;
- (c) a vehicle transporting goods or passengers to provide relief in the case of an earthquake, flood, fire, famine, drought, epidemic, pestilence or other disaster;
- (d) a recreational vehicle;
- (e) a vehicle used for urban transit service.

15 Apr 2005 cH-3.01 Reg 4 s6.

#### Trip Inspection

**7** Every registered owner and every driver of a commercial vehicle operated on a public highway shall complete a trip inspection and report and retain the records required by these regulations and shall comply with the standards set out in Appendix C.

15 Apr 2005 cH-3.01 Reg 4 s7.

**H-3.01 REG 4** SECURITY OF LOADS AND TRIP INSPECTION

**PART IV**  
**Repeal and Coming into Force**

**R.R.S. c.H-3.01 Reg 3 repealed**

**8** *The Security of Loads Regulations, 1999* are repealed.

15 Apr 2005 cH-3.01 Reg 4 s8.

**Coming into force**

**9** These regulations come into force on the day on which they are filed with the Registrar of Regulations.

15 Apr 2005 cH-3.01 Reg 4 s9.

## Appendix A

### National Safety Code Standard 10 Cargo Securement

September 23, 2004

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**H-3.01 REG 4 SECURITY OF LOADS AND TRIP INSPECTION**
**Interpretation**
**1 In this Standard:**

“**anchor point**” means the part of the structure, fitting or attachment on a vehicle or cargo to which a tiedown is attached;

“**bell pipe**” means concrete pipe with a flanged end that is bigger in diameter than the barrel;

“**blocking**” means a substantial structure, device or article placed against or around cargo to prevent horizontal movement;

“**bolster**” means a transverse, load bearing, structural horizontal component of a bunk securing device;

“**boulder**” means a single piece of natural or quarried, irregularly shaped rock:

- (a) that weighs 5 000 kilograms or more; or
- (b) that has a volume of more than 2 cubic metres;

“**bracing**” means a structure, device or article placed against another structure, device or article to prevent tipping;

“**bulkhead**” means a vertical barrier across a vehicle to prevent the cargo moving forward;

“**bundle**” means articles that have been unitized for the purpose of securing them as a single article with a uniform shape;

“**bunk**” means a horizontal bolster that:

- (a) is installed transversely across a vehicle; and
- (b) is fitted with a stake at each end;

“**cab shield**” means a vertical barrier:

- (a) placed directly behind the cab of a truck or truck tractor; and
- (b) capable of protecting the driver if cargo moves forward;

“**cargo**” means all articles or material carried by a vehicle, including those used in the operation of the vehicle;

“**cargo securement system**” means the method by which cargo is contained or secured and includes vehicle structures, securing devices and all components of the system;

“**chock**” means a tapered or wedge-shaped part used to prevent round articles from rolling;

“**cleat**” means a short piece of material nailed to the deck to reinforce blocking;

**“coil bunk”** means a device that keeps the timbers supporting a metal coil in place;

**“contained”** with respect to cargo means that:

- (a) the cargo fills a sided vehicle;
- (b) every article is in contact with or close to a wall or other articles; and
- (c) the cargo cannot move or tip;

**“container chassis vehicle”** means a vehicle specifically built for and fitted with locking devices for the transport of intermodal containers;

**“cradle”** means a structure that holds a circular article and prevents it from rolling;

**“cylinder well”** means the depression formed between 2 cylindrical articles when they are laid against each other with their eyes horizontal and parallel;

**“deck”** means the floor of a vehicle onto which the cargo is loaded;

**“dunnage”** means loose material used to support and protect cargo;

**“duty status”** means, in respect of a driver, any of the following periods:

- (a) off-duty time spent in a sleeper berth;
- (b) off-duty time, other than time spent in a sleeper berth;
- (c) driving time; or
- (d) on-duty time, other than driving time;

**“edge protector”** means a device put on the exposed edge of an article of cargo:

- (a) to protect a tiedown or the article from damage; or
- (b) to distribute tiedown forces over a greater area;

**“flatbed vehicle”** means a vehicle with a deck but no permanent sides;

**“forward”** with respect to a vehicle means towards the cab or engine;

**“frame vehicle”** means a vehicle for transporting logs that has a skeletal structure fitted with a front bunk and a rear bunk that together cradle a stack of logs as an integral part of the vehicle;

**“friction mat”** means a device placed between a deck and cargo, or between articles of cargo, that increases the friction between them;

**“front end structure”** means a vertical barrier across the front of a deck that prevents cargo moving forward;

**“heavy vehicle”** means:

- (a) a vehicle that weighs more than 4 500 kilograms; or
- (b) equipment or machinery that operates on wheels or tracks and weighs more than 4 500 kilograms;

**H-3.01 REG 4 SECURITY OF LOADS AND TRIP INSPECTION**

**“Hook-lift Container”** means a specialized container that is loaded and unloaded onto a tilt frame body by an articulating hook-arm;

**“integral locking device”** means a device that is designed and used to restrain an article of cargo by connecting and locking attachment points on the article to anchor points on the vehicle;

**“integral securement system”** means a roll-on/roll-off container or a Hook-lift Container and the vehicle used to transport them which are equipped with compatible front and rear hold-down devices which secure the container to the vehicle;

**“intermodal container”** means a reusable, transportable container that is specially designed with integral locking devices to secure it to a container chassis vehicle;

**“large pipe”** means concrete pipe with an inside diameter of more than 114.3 centimetres;

**“lengthwise”** means along the vehicle from the cab or tongue at the front to the rear;

**“light vehicle”** means:

- (a) an automobile, truck or van that weighs 4 500 kilograms or less; or
- (b) a piece of equipment or machinery that operates on wheels or tracks and weighs 4 500 kilograms or less;

**“log”** includes a utility pole, a treated pole and a building component of a log cabin;

**“longwood”** means logs longer than 4.9 metres;

**“pallet”** means a platform or tray on which cargo is placed so that it can be handled as a unit;

**“pole trailer”** means a trailer with a frame that consists only of a drawbar;

**“rail vehicle”** means a vehicle fitted with stakes at the front and rear to contain logs loaded crosswise;

**“restrain”** includes prevent from tipping or moving;

**“Roll-on / Roll-off Container”** means a specialized container which is loaded and unloaded onto a tilt frame body by a lifting mechanism in conjunction with rollers which are fixed to the container;

**“rub rail”** means a rail along the side of a vehicle that protects the side of the vehicle from impact;

**“securing device”** means a device specifically designed and manufactured to attach, restrain or secure cargo;

**“shoring bar”** means a device placed transversely between the walls of a vehicle and cargo to prevent the cargo from tipping or moving;

**“shortwood”** means logs that are not more than 4.9 metres long;

**“sided vehicle”** means a vehicle, including a van, a dump bodied vehicle and a sided intermodal container carried by vehicle, with a cargo compartment that is enclosed on all sides by walls:

- (a) that are strong enough to contain the cargo; and
- (b) that may have latched openings for loading and unloading;

**“small pipe”** means concrete pipe with an inside diameter of up to 114.3 centimetres;

**“spacer”** means material placed under an article, or between layers of articles, to make loading and unloading easier;

**“stake”** means a part, including a standard, that:

- (a) is mounted close to vertical on a vehicle frame or as part of a bunk; and
- (b) that immobilizes cargo placed against it;

**“strapping”** means tensioned strips of material that are clamped or crimped back on themselves;

**“tiedown”** means a combination of securing devices that are attached to one or more anchor points on a vehicle;

**“transport”** means the carriage of cargo by a vehicle while on a highway;

**“unitized”** means wrapped, banded or bound together so that several articles can be handled as a single article of cargo or behave as a single article;

**“vehicle”** means a truck, a truck tractor, individually or in combination with one or more semitrailers or trailers;

**“void filler”** means material that is:

- (a) used to fill a space between the cargo and the structure of the vehicle; and
- (b) is strong enough to prevent the cargo from moving;

**“working load limit”** means the maximum load that may be applied to a component of a cargo securement system during normal service determined in accordance with Divisions 3 and 4 of Part 1.

## PART 1 – GENERAL PROVISIONS

### Division 1 – Application

#### Application

2(1) This Standard applies to a vehicle or combination of vehicles:

- (a) transporting cargo on a highway; and
- (b) exceeding a registered gross vehicle weight of 4 500 kilograms.

(2) This Standard applies when an intermodal container is used to transport cargo.

**H-3.01 REG 4 SECURITY OF LOADS AND TRIP INSPECTION****Inspection**

- 3(1) The driver of a vehicle shall:
- (a) inspect the vehicle to confirm that the vehicle's tailgate, tailboard, doors, tarpaulins and spare tire, and other equipment used in its operation, are secured;
  - (b) ensure that the cargo does not interfere with the driver's ability to drive the vehicle safely; and
  - (c) ensure that the cargo does not interfere with the free exit of a person from the cab or driver's compartment of the vehicle.
- (2) The driver of a vehicle shall inspect the vehicle's cargo and the cargo securement system used and make necessary adjustments:
- (a) before driving the vehicle; and
  - (b) not more than 80 kilometres from the point where the cargo was loaded.
- (3) The driver of a vehicle shall re-inspect the vehicle's cargo and the cargo securement system used and make necessary adjustments to the cargo or cargo securement system as necessary, including adding more securing devices, at the earliest of the time:
- (a) there is a change of duty status of the driver;
  - (b) the vehicle has been driven for 3 hours; or
  - (c) the vehicle has been driven for 240 kilometres.
- (4) Subsections (2) and (3) do not apply to a driver where:
- (a) the cargo is sealed in a vehicle and the driver has been ordered not to open it to inspect the cargo; or
  - (b) the vehicle is loaded in a manner that makes the cargo, or portions of the cargo, inaccessible.
- (5) The driver of a vehicle transporting logs, before the vehicle enters a highway from a private road, shall:
- (a) inspect the vehicle, the logs and the securing devices to ensure compliance with this Standard; and
  - (b) make necessary adjustments to the securing devices, including adding more securing devices.

**Division 2 – General Performance Criteria****Cargo securement systems**

- 4(1) Cargo securement systems, and each component of a system, used to contain, immobilize or secure cargo on or within the vehicle shall be strong enough to withstand the forces described in section 5(1).
- (2) The components of the cargo securement system of a vehicle:
- (a) shall be in proper working order;
  - (b) shall be fit for the purpose for which they are used;

- (c) shall have no knots, damaged or weakened components that will adversely affect their performance for cargo securement purposes; and
  - (d) shall not have any cracks or cuts.
- (3) A securing device or integral locking device used to secure cargo to a vehicle shall itself be secured in a manner that prevents it from becoming unfastened while the vehicle is on a highway.

**Performance criteria**

- 5(1) The cargo securement system shall be capable of withstanding the forces that result if the vehicle is subjected to each of the following accelerations:
- (a) 0.8 g deceleration in a forward direction;
  - (b) 0.5 g deceleration in a rearward direction;
  - (c) 0.5 g acceleration in either sideways direction.
- (2) The cargo securement system shall provide a downward force equal to at least 20% of the weight of an article of cargo if the article is not fully contained within the structure of the vehicle.
- (3) The load on a component of a cargo securement system that reacts to a force referred to in subsection (1) or (2), shall not exceed the working load limit of the component.

**Appropriate system**

- 6(1) The cargo securement system used to contain, immobilize or restrain cargo shall be appropriate for the size, shape, strength and characteristics of the cargo.
- (2) The securing devices used to secure cargo on or within a vehicle shall be:
- (a) designed and constructed for the purpose for which they are used; and
  - (b) used and maintained in accordance with the manufacturer's instructions.

**Equivalent means of securement**

- 7 Where cargo transported by a vehicle is contained, immobilized or secured in accordance with the applicable requirements of Divisions 3, 4 and 5 and Part 2, it meets the requirements of Section 5.

**Division 3 – Requirements for Cargo Securement Systems****Exemption**

- 8 This Division does not apply to the transportation of a commodity that is transported in bulk, lacks structure, fixed shape or is fluid, and is transported in:
- (a) a tank, hopper, box or container that is manufactured as part of the vehicle in which it is transported; or
  - (b) a vehicle that is specifically manufactured to transport the commodity.

**H-3.01 REG 4 SECURITY OF LOADS AND TRIP INSPECTION****General requirement**

**9** Cargo shall be firmly immobilized or secured on or within a vehicle by structures of adequate strength, blocking, bracing, dunnage or dunnage bags, shoring bars, tiedowns or a combination of these.

**Minimum strength of securement system**

**10(1)** In this section, the “**aggregate working load limit**” is the sum of one-half of the working load limit for each end section of a tiedown that is attached to an anchor point.

(2) The aggregate working load limit of the cargo securement system used to secure an article of cargo on or within a vehicle shall not be less than 50% of the weight of the article.

(3) The aggregate working load limit of the cargo securement system used to secure a group of articles of cargo on or within a vehicle shall be not less than 50% of the total weight of the group.

**Securing devices marked with working load limit**

**11(1)** The working load limit of a tiedown or a component of a tiedown that is marked by its manufacturer with a numeric working load limit is the marked working load limit.

(2) A tiedown or a component of a tiedown that is marked by its manufacturer in accordance with a standard referred to in Part 4 has a working load limit equal to that standard.

(3) A chain that is marked by the manufacturer in accordance with the table of Working Load Limits under Part 4 - Section 7 has a working load limit equal to the amount shown for the grade and size.

(4) On and after January 1, 2010, a person shall not use a tiedown or a component of a tiedown to secure cargo to a vehicle unless it is marked by the manufacturer with respect to its working load limit.

**Unmarked securing devices**

**12(1)** This section applies to securing devices used to secure cargo to a vehicle that are not marked by the manufacturer with a working load limit.

(2) Chain has a working load limit equal to that of the same size of Grade 3 Proof Coil under Part 3 - Section 1.

(3) Synthetic webbing that is not marked by its manufacturer has the working load limit under Part 3 - Section 2 based on its width.

(4) Wire rope has the working load limit under Part 3 - Section 3 based on its diameter.

(5) Manila rope has the working load limit under Part 3 - Section 4 based on its diameter.

(6) Polypropylene fibre rope, polyester fibre rope, nylon rope and double braided nylon rope has the working load limit under Part 3 - Section 5 based on its diameter.

(7) Synthetic cordage that is not marked or labelled to identify its composition has the working load limit under Part 3 - Section 5 based on its diameter.



(8) Steel strapping has the working load limit under Part 3 - Section 6 based on its width.

(9) A friction mat which is not marked by the manufacturer with a working load limit is assumed to provide resistance to horizontal movement equal to 50% of the weight of the cargo resting on the mat.

(10) A tiedown or a component of a tiedown that is not referred to in subsections (2) to (9) has a working load limit equal to the working load limit of the lowest grade or classification assigned under Part 3.

**Steel strapping**

**13(1)** Steel strapping that is 2.54 centimetres wide or wider used to secure cargo to a vehicle shall have at least 2 pairs of crimps in each seal.

(2) An end-over-end lap joint formed in steel strapping used to secure cargo to a vehicle shall be sealed with at least 2 seals.

**Blocking systems to prevent forward movement**

**14** The aggregate working load limit of the components of a blocking system used as a unique form of securement to prevent an article of cargo from moving forward, including tiedowns used as blocking, shall not be less than 50% of the weight of the article being blocked.

**Rub rails**

**15** The securing devices used on or within a vehicle shall, wherever practical, be located inboard the rub rails where the vehicle has rub rails.

**Timber**

**16** Timber used on or within a vehicle as dunnage, chocks or cradles or for blocking or bracing shall be strong enough that it will not be split or crushed by the cargo or the tiedowns.

**Placement of articles of cargo**

**17** Where the articles of cargo on or within a vehicle are placed beside each other and secured by tiedowns that pass over 2 or more articles, the articles shall be:

- (a) placed in direct contact with each other; or
- (b) prevented from moving towards each other while the vehicle is on a highway.

**Prevention of rolling**

**18** Where any cargo or portion thereof may roll, it shall be restrained by chocks, wedges, a cradle or another securing device that prevents the cargo from rolling.

**Division 4 – Tiedowns**

**Tension**

**19(1)** A tiedown used to secure cargo to a vehicle shall be designed, constructed and maintained so that the driver of the vehicle can tighten it.

(2) The driver of a vehicle shall ensure that tiedowns are taut while the vehicle is on a highway.

(3) Subsection (1) does not apply to steel strapping.

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(4) A tiedown used to secure cargo to a vehicle shall be used in a manner that prevents the tiedown from slipping, loosening, unfastening, opening or releasing while the vehicle is on a highway.

(5) A tiedown used to secure stacked articles of cargo is considered to contribute to the securing of all articles of cargo on which that tiedown causes pressure.

**Edge protectors**

**20(1)** An edge protector shall be used where a tiedown would be subject to abrasion or cutting at the point where it touches an article of cargo.

(2) An edge protector used between a tiedown and cargo shall be resistant to abrasion, cuts and crushing.

(3) An edge protector used between a tiedown and cargo shall allow the tiedown to slide freely when it is tightened or loosened.

**Working load limit**

**21(1)** Subject to subsection (2), the working load limit of a tiedown, associated connector or attachment mechanism is the lesser of:

- (a) the lowest working load limit of the components; or
- (b) the lowest working load limit of the anchor points or associated connector or attachment mechanism to which the tiedown is attached.

(2) The working load limit of a tiedown that includes synthetic webbing is the least of:

- (a) the working load limit of the synthetic webbing assembly;
- (b) the lowest working load limit of the components; or
- (c) the working load limit of the anchor point to which the tiedown is attached.

**Minimum number**

**22(1)** Subject to subsection (4), cargo transported by a vehicle shall be secured using the number of tiedowns calculated under subsection (2) or (3).

(2) Where an article of cargo is not blocked, or immobilized by a front end structure, bulkhead, by other immobilized cargo or by another device that prevents it moving forward, it shall be secured by at least:

- (a) 1 tiedown where the article is 1.52 metres or shorter and weighs not more than 500 kilograms;
- (b) 2 tiedowns where the article is:
  - (i) 1.52 metres or shorter and weighs more than 500 kilograms; or
  - (ii) longer than 1.52 metres but not longer than 3.04 metres regardless of its weight; or:
- (c) where the article is longer than 3.04 metres:
  - (i) 2 tiedowns for the first 3.04 metres of length; and
  - (ii) 1 extra tiedown for each additional 3.04 metres or fraction of 3.04 metres.

(3) Where an article of cargo is blocked, or immobilized by a front end structure, bulkhead, by other immobilized cargo or by another device to prevent it moving forward, it shall be secured by at least:

- (a) 1 tiedown where the article is not longer than 3.04 metres; or
- (b) where the article is longer than 3.04 metres:
  - (i) 1 tiedown for the first 3.04 metres of length; and
  - (ii) 1 extra tiedown for each additional 3.04 metres or fraction of 3.04 metres.

(4) Where a vehicle is transporting machinery or fabricated structural items that shall be secure by special methods because of their design, size, shape or weight, the special methods shall:

- (a) secure adequately any article of the cargo; and
- (b) be properly used in accordance with the manufacturer's instructions.

### **Division 5 – Front End Structures**

#### **Application**

**23(1)** Subject to subsection (2), this Division applies to a vehicle transporting cargo that is in contact with the front end structure of the vehicle.

(2) Where devices are used on a vehicle that perform the same function as the front end structure of a vehicle, the devices shall be at least as strong as and provide the same protection as a front end structure that complies with this Division.

(3) A cab shield is not a front end structure or part of a cargo securement system.

#### **Height and width**

**24(1)** The height of the front end structure of the vehicle shall not be shorter than the shorter of:

- (a) the height at which it prevents the cargo from moving forward; and
- (b) 122 centimetres above the deck.

(2) The width of the front end structure of a vehicle shall not be narrower than the narrower of:

- (a) the width of the vehicle; and
- (b) the width at which it prevents the cargo being transported from moving forward.

#### **Strength**

**25(1)** The front end structure of a vehicle shall be able to withstand a horizontal forward static load equal to 50% of the total weight of the cargo where:

- (a) the height of the front end structure is shorter than 1.83 metres; and
- (b) the cargo is uniformly distributed over all of the front end structure.

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(2) The front end structure of a vehicle shall be able to withstand a horizontal forward static load equal to 40% of the total weight of the cargo where:

- (a) the height of the front end structure is 1.83 metres or higher; and
- (b) the cargo is uniformly distributed over all of the front end structure.

**Penetration resistance**

**26(1)** The front end structure of the vehicle shall be able to resist penetration by an article of cargo that contacts it when the vehicle decelerates at a rate of 6.1 metres per second.

(2) The front-end structure of the vehicle shall not have an opening or gap that is big enough to permit an article of cargo to pass through it.

**PART 2 – SPECIFIC SECUREMENT  
REQUIREMENTS BY CARGO TYPE**

**Applicability**

**27(1)** This Part applies in addition to and not instead of Part 1.

(2) Where a requirement for containing, immobilizing or securing cargo transported by a vehicle required under this Part differs from a requirement under Part 1, the provisions of this Part apply.

**Division 1 – Logs**

**Application**

**28(1)** This Division applies to the transportation of logs that:

- (a) are not unitized; or
- (b) are part of a cargo that has more than 4 processed logs.

(2) This Division does not apply to firewood, stumps, log debris or logs that are transported in a vehicle or container that is enclosed on all sides and strong enough to contain them.

**Vehicle transporting logs**

**29(1)** A vehicle that is transporting logs shall be designed, built or specially adapted for such transportation.

(2) The vehicle shall be fitted with bunks, bolsters, stakes or other means of cradling the logs and preventing them from shifting.

(3) Stakes that are not permanently attached to the vehicle frame or bunk shall be secured in a manner that prevents the stakes from separating from the vehicle while it is on a highway.

**Log configuration**

**30(1)** Logs shall be solidly packed on a vehicle.

(2) The outer logs in the bottom layer of logs shall touch and rest solidly against a bunk, bolster or stake.

- (3) Outside logs on a stack of logs shall:
  - (a) touch at least 2 bunks, bolsters or stakes; or
  - (b) where one end of a log does not touch a bunk, bolster or stake, it shall:
    - (i) rest on other logs in a stable manner, and
    - (ii) extend beyond the end of the bunk, bolster or stake.
- (4) The centre of the highest outside log on each side or end of the vehicle shall be lower than the tops of the bunks or stakes.
- (5) The upper logs that form the top of the cargo shall be crowned.

**Securement system**

**31** Tiedowns must be used to secure the load, in combination with bunks, bolsters, stakes, or other means of cradling the logs.

**Application**

**32** Sections 10(2) and 10(3) do not apply to this Division.

**Sufficient additional tiedowns or other securing devices**

**33** Sufficient additional tiedowns or other securing devices shall be used to ensure that no part of the cargo becomes dislodged where:

- (a) the wood's condition results in such low friction between logs that they may slip against each other; or
- (b) a log is not held in place by contact with other logs or by the bunks, bolsters or stakes.

**Shortwood loaded crosswise**

**34(1)** This section and sections 35 to 37 apply to shortwood loaded crosswise on a frame, rail or flatbed vehicle other than a pole trailer.

(2) The end of a log in the lower layer of shortwood shall not extend more than 1/3 of the log's total length beyond the nearest supporting structure on the vehicle.

**One stack of shortwood loaded crosswise**

**35(1)** Despite section 22, where only one stack of shortwood is loaded crosswise, the stack shall be secured by at least 2 tiedowns arranged as follows:

- (a) the tiedowns shall attach to the vehicle frame at the front and rear of the load, and shall cross the load lengthwise;
  - (b) the tiedowns shall be positioned at approximately one-third and two-thirds of the length of the logs;
- (2) A vehicle built on or after January 1, 2010 shall be equipped with a device that maintains a tension not less than 900 kg at all times, and automatically takes up slack in the tiedown as the logs settle.

**H-3.01 REG 4 SECURITY OF LOADS AND TRIP INSPECTION****Two stacks of shortwood loaded crosswise**

**36(1)** Despite section 22, where two stacks of shortwood are loaded crosswise and side-by-side on a vehicle, they shall be loaded so that:

- (a) there is no space between the 2 stacks;
- (b) the outside of each stack is raised by a piece of metal at least 25 millimetres high within 10 centimetres of the end of the logs or the side of the vehicle and causes the load to lean toward the centre to the vehicle;
- (c) the highest log is not more than 2.44 metres above the deck; and
- (d) at least one tiedown used lengthwise across each stack shall:
  - (i) be located approximately midway between the bunks or stakes; and
  - (ii) attach to the vehicle frame at the front and rear of the load.

(2) A vehicle built on or after January 1, 2010 shall be equipped with a device that maintains a tension not less than 900 kg at all times, and automatically takes up slack in the tiedown as the logs settle.

**Long vehicles carrying shortwood loaded crosswise**

**37(1)** A vehicle that is more than 10 metres long transporting shortwood loaded crosswise shall have centre stakes, or comparable structures, that divide its length into two approximately equal sections.

- (2) Where the vehicle is divided by centre stakes, each tiedown shall:
  - (a) secure the highest log on each side of the centre stake; and
  - (b) be fastened below that highest log.
- (3) Where the vehicle is divided by centre stakes, each tiedown shall:
  - (a) be fixed at each end and tensioned from the middle;
  - (b) be fixed in the middle and tensioned from each end; or
  - (c) pass through a pulley or similar device in the middle of the tiedown and be tensioned from one end.
- (4) Where a stake or other structure on a vehicle transporting shortwood loaded crosswise is subjected to an upward force when the tiedowns are tightened, the stake or other structure shall be anchored to resist that force.

**Shortwood loaded lengthwise**

**38(1)** Despite section 22, each stack of shortwood loaded lengthwise on a frame vehicle or flatbed vehicle, other than a pole trailer, shall be secured to the vehicle by 2 or more tiedowns.

- (2) Despite subsection (1), a stack of shortwood loaded lengthwise on a frame vehicle or flatbed vehicle, other than a pole trailer, shall be secured to the vehicle with a single tiedown located approximately midway between the bunks or stakes where all the logs in the stack:
  - (a) are shorter than 3.04 metres;

- (b) are blocked in the front by a front end structure strong enough to restrain the cargo or by another stack; and
  - (c) are blocked in the rear by another stack or the vehicle's end structure.
- (3) The aggregate working limit of tiedowns used to secure each stack shall be at least 1/6 of the weight of the stack.

**Longwood loaded lengthwise**

- 39(1)** Despite section 22, a stack of longwood loaded lengthwise on a frame or flatbed vehicle, other than a pole trailer, shall be secured to the vehicle by 2 or more tiedowns.
- (2) The aggregate working limit of tiedowns used to secure each stack shall be at least 1/6 of the weight of the stack.
- (3) The outside logs of a stack of longwood shall be secured by 2 or more tiedowns.

**Pole trailers**

- 40(1)** This section applies to logs, regardless of the length of individual logs, transported on pole trailers.
- (2) Despite section 22, the logs shall be secured by:
- (a) one or more tiedowns at each bunk; or
  - (b) two or more tiedowns used as wrappers that encircle the entire stack of logs at sufficient locations along the stack to secure it effectively.
- (3) Where wrappers are used on a stack of logs, the wrappers at the front and rear ends of the stack shall be not less than 3.04 metres apart.
- (4) Where the vehicle is transporting one or two logs with diameters greater than 0.6 metre, each logs shall be individually immobilized with chock blocks or an equally effective method that prevents the logs from moving.
- (5) Where a log with a diameter greater than 0.6 metre rises above the bunks, it shall be secured to the underlying logs with at least 2 additional tiedowns used as wrappers.

**Division 2 – Dressed Lumber****Application**

- 41(1)** This Division applies to the transportation of:
- (a) bundles of dressed lumber and packaged lumber; and
  - (b) unitized building products, including plywood, gypsum board or other materials of similar shape.
- (2) For the purpose of this Division, “**bundle**” means the material referred to in subsection (1).

**Side by side**

- 42** Where bundles are placed side by side:
- (a) bundles shall be in direct contact with each other; or
  - (b) a method shall be used that prevents the bundles from moving towards each other.

**H-3.01 REG 4 SECURITY OF LOADS AND TRIP INSPECTION****Securement system for dressed lumber**

**43** Bundles carried in 2 or more layers shall be secured in accordance with one of sections 44, 45, 46 or 47.

**Bundles blocked against lateral movement by stakes**

**44** Bundles carried in 2 or more layers which are blocked against lateral movement by stakes on the sides of the vehicle shall be secured by tiedowns laid out over the top layer, as outlined in the provisions of section 22 of this Standard.

**Bundles restrained from lateral movement by blocking or high friction devices**

**45** Bundles carried in 2 or more layers which are restrained from lateral movement by blocking or high friction devices between layers shall be secured by tiedowns laid out over the top tier, as outlined in the provisions of section 22 of this Standard.

**Bundles placed directly on top of other bundles or on spacers of adequate size and orientation**

**46(1)** Bundles carried in 2 or more layers placed directly on top of other bundles or on spacers of adequate size and orientation, shall be secured by:

- (a) tiedowns over the top layer of bundles, in accordance with provisions of section 22 of this Standard, with a minimum of two tiedowns for bundle(s) longer than 1.52 metres; and
  - (b) tiedowns over the second layer of bundles, or at 1.85 metres above the vehicle deck, whichever is greater, or not over 1.85 metres above the deck for other multiple layers in accordance with the provisions of section 22 of this Standard, for each stack of bundles composed of more than two layers.
- (2) Where spacers are used for the purposes of subsection (1), then:
- (a) the length of spacers between bundles shall provide support to all pieces in the bottom row of the bundle;
  - (b) the width of individual spacers shall be equal to or greater than the height;
  - (c) spacers shall provide good interlayer friction; and
  - (d) where spacers are comprised of layers of material, the layers shall be unitized or fastened together in a manner which ensures that the spacer performs as a single piece of material.

**Layers of bundles**

**47** Bundles carried in 2 or more layers shall be secured by tiedowns laid out over each layer of bundles, in accordance with the provisions of section 22 of this Standard with a minimum of two tiedowns over each top bundle(s) longer than 1.52 metres, in all other circumstances.

**Division 3 – Metal Coils****Application**

**48** This Division applies to a flatbed vehicle or a sided vehicle or intermodal container that is transporting one or more metal coils that individually or grouped together have a total weight of 2 268 kilograms or more.



**Coils transported with eyes vertical by a vehicle or an intermodal container with anchor points**

**49(1)** This section applies to coils transported with the eyes vertical.

(2) Where a vehicle is transporting a single coil or several coils which are not grouped in a row, each coil shall be secured by tiedowns arranged in a manner that prevents the coil from tipping forward, rearward, or sideways. The securement system shall include:

- (a) at least 1 tiedown attached diagonally from the left side of the vehicle near the forward-most part of the coil, across the eye of the coil, to the right side of the vehicle near the rearmost part of the coil;
- (b) at least 1 tiedown attached diagonally from the right side of the vehicle near the forward-most part of the coil, across the eye of the coil, to the left side of the vehicle near the rearmost part of the coil;
- (c) at least 1 tiedown attached across the eye of the coil; and
- (d) blocking and bracing, friction mats or tiedowns that prevent the coil moving forward.

(3) Where a vehicle is transporting coils that are grouped and loaded side by side in a transverse or lengthwise row, each row shall be secured by:

- (a) at least 1 tiedown against the front of the row, restraining against forward movement, and where practical, making an angle of not more than 45 degrees with the deck when viewed from the side;
- (b) at least 1 tiedown against the rear of the row, restraining against rearward movement, and where practical, making an angle of not more than 45 degrees with the deck when viewed from the side;
- (c) at least one tiedown over the top of each coil or each transverse row of coils, restraining against vertical movement; and
- (d) tiedowns shall be arranged to prevent shifting and tipping in the forward, rearward and lateral directions.

(4) Subject to subsections (2) and (3) a tiedown going over the top of a coil shall be as close as practical to the eye of the coil.

**Coils transported with eyes crosswise by a vehicle or an intermodal container with anchor points**

**50(1)** This section applies to coils transported with the eyes crosswise.

(2) Each coil shall be immobilized with timbers, chocks or wedges, a cradle or other device that:

- (a) prevents the coil from rolling;
- (b) supports the coil off the deck; and
- (c) is not capable of becoming unfastened or loose while the vehicle is on a highway.

(3) Where timbers, chocks or wedges are used to secure a coil, they shall be held in place by coil bunks or similar devices to prevent the blocking device from coming loose.

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- (4) Each coil shall be secured with:
- (a) at least 1 tiedown through its eye, restricting against forward movement, and where practical, making an angle of not more than 45 degrees with the deck when viewed from the side; and
  - (b) at least one tiedown through its eye, restricting against rearward movement, and where practical, making an angle of not more than 45 degrees with the deck when viewed from the side.

**Coils transported with eyes lengthwise by a vehicle or an intermodal container with anchor points**

**51** An individual metal coil transported with the eye lengthwise shall be secured in accordance with one of sections 52, 53 or 54.

**From left side of the vehicle to the right side of the vehicle**

**52(1)** Each coil shall be immobilized by timbers, chocks or wedges, a cradle or another method that:

- (a) prevents the coil from rolling;
  - (b) supports the coil off the deck; and
  - (c) is not capable of becoming unfastened or loose while the vehicle is on a highway.
- (2) Where timbers, chocks or wedges are used to secure a coil, they shall be held in place by coil bunks or similar devices to prevent the blocking device from coming loose.

(3) Each coil shall be secured with:

- (a) at least 1 tiedown attached diagonally through its eye from the left side of the vehicle near the forward-most part of the coil, to the right side of the vehicle near the rearmost part of the coil, making an angle of not more than 45 degrees, where practical, with the deck when viewed from the side;
- (b) at least 1 tiedown attached diagonally through its eye, from the right side of the vehicle near the forward-most part of the coil, to the left side of the vehicle near the rearmost part of the coil, making an angle of not more than 45 degrees, where practical, with the deck when viewed from the side;
- (c) at least 1 tiedown attached across the top of the coil; and
- (d) blocking or friction mats to prevent a coil from moving lengthwise.

**From the left side to the vehicle to the left side of the vehicle**

**53(1)** Each coil shall be immobilized by timbers, chocks or wedges, a cradle or another method that:

- (a) prevents the coil from rolling;
- (b) supports the coil off the deck; and
- (c) is not capable of becoming unfastened or loose while the vehicle is on a highway.

(2) Where timbers, chocks or wedges are used to secure a coil, they shall be held in place by coil bunks or similar devices to prevent the blocking device from coming loose.

(3) Each coil shall be secured with:

(a) at least 1 tiedown attached straight through its eye from the left side of the vehicle near the forward-most part of the coil, to the left side of the vehicle near the rearmost part of the coil and, where practical, making an angle of not more than 45 degrees with the deck when viewed from the side;

(b) at least 1 tiedown attached straight through its eye, from the right side of the vehicle near the forward-most part of the coil, to the right side of the vehicle near the rearmost part of the coil and, where practical, making an angle of not more than 45 degrees with the deck when viewed from the side;

(c) at least 1 tiedown attached across the top of the coil; and

(d) blocking or friction mats to prevent the coil from moving lengthwise.

**Tiedowns over the top of coils**

**54(1)** Each coil shall be immobilized by timbers, chocks or wedges, a cradle or another method that:

(a) prevents the coil from rolling;

(b) supports the coil off the deck; and

(c) is not capable of becoming unfastened or loose while the vehicle is on a highway.

(2) Where timbers, chocks or wedges are used to secure a coil, they shall be held in place by coil bunks or similar devices to prevent the blocking device from coming loose.

(3) Each coil shall be secured by:

(a) at least 1 tiedown over the top of the coil, located near the forward-most part of the coil;

(b) at least 1 tiedown over the top of the coil located near the rearmost part of the coil; and

(c) blocking or friction mats to prevent the coil from moving lengthwise.

**Rows of coils**

**55(1)** This section applies to the transportation of transverse rows of metal coils with eyes lengthwise and with approximately equal outside diameters.

(2) A transverse row of coils shall be immobilized by timbers, chocks or wedges, a cradle or another method that:

(a) prevents the coils from rolling;

(b) supports the coils off the deck; and

(c) is not capable of becoming unfastened or loose while the vehicle is on a highway.

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(3) Where timbers, chocks or wedges are used to secure a row of coils, they shall be held in place by coil bunks or similar devices to prevent the blocking device from coming loose.

(4) A transverse row of coils shall be secured by:

- (a) at least 1 tiedown over the top of each coil, located near the forward-most part of the coil;
- (b) at least 1 tiedown over the top of each coil, located near the rearmost part of the coil; and
- (c) blocking or friction mats to prevent each coil from moving lengthwise.

**Prohibitions**

**56** The use of nailed wood blocking or cleats as the sole means to secure timbers, chocks or wedges, or a nailed wood cradle is prohibited when metal coils are transported with eyes lengthwise or eyes crosswise by a vehicle or an intermodal container with anchor points.

**Coils transported with eyes crosswise**

**57** When coils are transported with eyes crosswise, attaching tiedowns diagonally through the eye of a coil to form an X pattern when viewed from above the vehicle is prohibited.

**Securement of coils transported in a sided vehicle or intermodal container without anchor points**

**58** Metal coils shall be secured in a manner to prevent shifting and tipping using a system of blocking and bracing, friction mats, tiedowns, or a combination of these.

**Division 4 – Paper Rolls****Application**

**59(1)** This Division applies to the transportation of paper rolls which individually or together weigh 2 268 kilograms or more.

(2) Paper rolls may be secured in accordance with this Division where:

- (a) the total weight is less than 2 268 kilograms; and
- (b) a single or several paper rolls are unitized on a pallet.

**Friction mats**

**60** A friction mat used to provide the principal securement for a paper roll shall protrude from beneath the roll in the direction in which it is providing that securement.

**Chocks, wedges and blocking**

**61** Chocks, wedges or blocking used to secure paper rolls shall not shift or become unfastened while the vehicle is on a highway.

**Banding**

**62** Where paper rolls are banded together:

- (a) the rolls shall be placed tightly against each other to form a stable group;
- (b) the banding shall be applied tightly and remain so; and
- (c) the banding shall be secured so that it cannot fall off the rolls or to the deck.

**Single layer of paper rolls transported eyes vertical in a sided vehicle**

**63(1)** This section applies to paper rolls that are transported with the eyes vertical in a single layer in a sided vehicle.

(2) The paper rolls shall be placed tightly against the front and both side walls of the vehicle, other paper rolls or other cargo.

(3) Where there are not enough paper rolls in a group of paper rolls to reach the walls of the vehicle, void fillers, blocking, bracing, tiedowns or friction mats shall be used to prevent the rolls moving sideways.

(4) Paper rolls may be banded together.

(5) Where a space behind a group of paper rolls, including that at the rear of the vehicle, exceeds the diameter of the paper rolls, the rolls shall be prevented from moving rearward by blocking, bracing, tiedowns or friction mats or by banding the last roll to other rolls.

(6) A paper roll shall be prevented from tipping or falling sideways or rearwards by banding it to other rolls or by using bracing or tiedowns where:

(a) the vehicle's structure or other cargo does not prevent the roll from tipping or falling sideways or rearwards; and

(b) the width of the roll is more than 2 times its diameter.

(7) A single paper roll or the forward most roll in a group of paper rolls shall be prevented from tipping or falling forward by banding it to other rolls or by using bracing or tiedowns where:

(a) the vehicle's structure or other cargo does not prevent the roll from tipping or falling forward;

(b) the roll is restrained against moving forward only by friction mats; and

(c) the width of the roll is more than 1.75 times its diameter.

(8) A single paper roll or the forward most roll in a group of rolls shall be prevented from tipping or falling forward by banding it to other rolls or by using bracing or tiedowns where:

(a) the vehicle's structure or other cargo does not prevent the roll from tipping or falling forward; and

(b) the width of the roll is more than 1.25 times its diameter.

**Split cargo of paper rolls transported with eyes vertical in a sided vehicle**

**64(1)** This section applies to split cargo of paper rolls transported with the eyes vertical in a sided vehicle.

(2) Where a paper roll in a split cargo of paper rolls transported with the eyes vertical in a sided vehicle is not prevented from moving forward by the vehicle's structure or other cargo, it shall be prevented from moving forward:

(a) by filling the open space;

(b) by using blocking, bracing, tiedowns, friction mats; or

(c) by using a combination of the methods in clauses (a) and (b).

**H-3.01 REG 4 SECURITY OF LOADS AND TRIP INSPECTION****Stacked cargo of paper rolls transported with eyes vertical in a sided vehicle**

**65(1)** This section applies to stacked cargo of paper rolls transported with the eyes vertical in a sided vehicle.

- (2) Section 63 applies to the bottom layer in a stacked cargo of paper rolls.
- (3) Paper rolls shall not be loaded on top of another layer unless the layer beneath extends to the front of the vehicle.
- (4) Paper rolls in the 2nd and subsequent layers shall be prevented from moving forward, rearward or sideways:
  - (a) in accordance with section 63; or
  - (b) by using a blocking roll from a lower layer.
- (5) A blocking roll used to prevent forward, rearward or sideways movement shall be:
  - (a) at least 38 millimetres taller than other rolls; or
  - (b) raised at least 38 millimetres using dunnage or another method.
- (6) Despite subsection (5), a roll at the rear end of a layer of rolls shall not be raised using dunnage.

**Single layer of paper rolls transported eyes crosswise in a sided vehicle**

**66(1)** This section applies to a single layer of paper rolls transported with the eyes crosswise in a sided vehicle.

- (2) The paper rolls shall be prevented from rolling or moving lengthwise:
  - (a) by contact with the vehicle's structure or other cargo; or
  - (b) by chocks, wedges, blocking, bracing or tiedowns.
- (3) Void fillers, blocking, bracing, friction mats or tiedowns shall be used to prevent a paper roll from moving sideways towards the side walls of the vehicle where the total space between the ends of the paper roll, or the outer rolls in a row of paper rolls, and the walls of the vehicle is more than 203 millimetres.

**Rear doors**

**67** A vehicle transporting paper rolls with the eyes crosswise shall not use the rear doors of the vehicle:

- (a) to secure the rearmost paper roll or layer of paper rolls; or
- (b) to hold blocking that secures the rearmost paper roll or layer of paper rolls.

**Stacked cargo of paper rolls transported eyes crosswise in a sided vehicle**

**68(1)** This section applies to stacked cargo of paper rolls transported in a sided vehicle with the eyes crosswise.

- (2) Section 66 applies to the bottom layer in a stacked cargo of paper rolls.
- (3) Paper rolls shall not be loaded in a 2nd layer unless the bottom layer extends to the front of the vehicle.
- (4) Paper rolls shall not be loaded in a 3rd or higher layer unless all the cylinder wells in the layer beneath are filled.

- (5) The foremost paper roll in each upper layer and a roll with an empty cylinder well in front of it shall be secured against moving forward by:
- (a) banding it to other paper rolls;
  - (b) blocking against a secured eye-vertical blocking roll resting on the deck that is at least 1.5 times taller than the diameter of the roll being blocked; or
  - (c) placing it in a cylinder well formed by 2 paper rolls on the lower layer with a diameter equal to or greater than that of the paper roll on the upper layer.
- (6) The rearmost paper roll in each upper layer shall be secured by banding it to other paper rolls where it is located in either of the last 2 cylinder wells formed by the rearmost paper rolls in the layer below.
- (7) Void fillers, blocking, bracing, friction mats or tiedowns shall be used to prevent a paper roll from moving sideways towards the side walls of the vehicle where the total space between the ends of the paper roll, or the outer rolls in a row of paper rolls, and the walls of the vehicle is more than 203 millimetres.

**Single layer of paper rolls transported eyes lengthwise in a sided vehicle**

- 69(1)** This section applies to paper rolls transported in a sided vehicle in a single layer with the eyes lengthwise.
- (2) A paper roll shall be prevented from moving forward by contact with the vehicle's structure or other cargo or by blocking or tiedowns.
  - (3) A paper roll shall be prevented from moving rearward by contact with other cargo or by blocking, friction mats or tiedowns.
  - (4) A paper roll shall be prevented from rolling or moving sideways by contact with the vehicle's wall or other cargo or by chocks, wedges or other blocking mechanism.

**Stacked cargo of paper rolls transported eyes lengthwise in a sided vehicle**

- 70(1)** This section applies to stacked cargo of paper rolls transported with the eyes lengthwise in a sided vehicle.
- (2) Section 69 applies to the bottom layer in a stacked cargo of paper rolls.
  - (3) Paper rolls shall not be loaded in a higher layer unless all the cylinder wells in the layer beneath are filled.
  - (4) An upper layer of paper rolls shall be formed by placing the paper rolls in the cylinder wells formed by the rolls beneath.
  - (5) Paper rolls in the 2nd and higher layers shall be prevented from moving forward or rearward:
    - (a) in accordance with section 69;
    - (b) by using a blocking roll from a lower layer; or
    - (c) by banding them to other rolls.



**H-3.01 REG 4 SECURITY OF LOADS AND TRIP INSPECTION****Cargo of paper rolls transported with eyes vertical or with eyes lengthwise on a flatbed vehicle or in a curtain sided vehicle**

**71(1)** This section applies to cargo of paper rolls transported with the eyes vertical or with eyes lengthwise on a flatbed vehicle or in a curtain sided vehicle.

(2) The paper rolls shall be loaded and secured as described for a sided vehicle, and the entire load shall be secured by tiedowns in accordance with the provisions of section 22 of this Standard.

(3) Stacked loads of paper rolls with eyes vertical are prohibited.

**Cargo of paper rolls transported with eyes crosswise on a flatbed vehicle or in a curtain sided vehicle**

**72(1)** This section applies to cargo of paper rolls transported with the eyes crosswise on a flatbed vehicle or in a curtain sided vehicle.

(2) The paper rolls shall be prevented from rolling or shifting longitudinally by contact with vehicle structure or other cargo, by chocks, by wedges, by blocking and bracing of adequate size, or by tiedowns.

(3) When used, chocks, wedges or blocking must be held securely in place by some means in addition to friction so that they cannot become unfastened or loose while the vehicle is on a highway.

(4) Tiedowns shall be used in accordance with the provisions of section 22 of this Standard to prevent lateral movement.

**Division 5 – Concrete Pipe**

In this Division, “**pipe**” means concrete pipe.

**Application**

**73(1)** This Division applies to the transportation of pipes loaded transversely on a flatbed vehicle.

(2) This Division does not apply to:

- (a) unitized pipes that has no tendency to roll; or
- (b) concrete pipe loaded in a sided vehicle.

(3) Section 22 does not apply to the transportation of concrete pipes to which this Division applies.

**Tiedowns**

**74** A transverse tiedown running through a pipe in an upper layer or over lengthwise tiedowns is considered to secure all the pipe in a lower layer on which that tiedown causes pressure.

**Blocking**

**75(1)** The blocking used to secure a pipe shall comply with this section.

(2) Blocking shall be placed symmetrically about the centre of the pipe.

(3) Where one piece of blocking is used it shall extend to at least ½ the distance from the centre to each end of the pipe.

(4) Where two pieces of blocking are used they shall be placed near each end of the pipe.



(5) Blocking shall be placed firmly against a pipe and shall be secured to prevent it moving out from under the pipe.

(6) Timber blocking shall have a minimum dimension of at least 8.9 centimetres by 14 centimetres

**Multi-sized pipe**

**76** Where the pipes to be transported on a vehicle have different diameters:

- (a) pipes with the same diameter shall be grouped together; and
- (b) each group shall be secured separately.

**Arranging layers**

**77(1)** This section applies to pipe arranged in layers on a vehicle.

(2) The bottom layer of pipes shall be arranged to cover the full length of the vehicle or, as a partial layer with one or 2 groups.

(3) Pipe in an upper layer shall be placed only in the cylinder wells formed by adjacent pipes in the layer beneath.

(4) A 3rd or higher layer of pipe shall not be formed unless all the cylinder wells in the layer beneath are filled with pipe.

(5) The top layer shall be arranged as a complete layer or, as a partial layer in one or 2 groups.

**Bell pipe**

**78(1)** Bell pipe shall be loaded on at least 2 lengthwise spacers of sufficient height so that the bell is clear of the deck.

(2) Bell pipes loaded in a single layer shall have the bells alternating on opposite sides of the vehicle.

(3) The ends of consecutive bell pipes shall be:

- (a) staggered, where possible, within the allowable width; or
- (b) aligned.

(4) Stacked bell pipes shall have all the bells of the bottom layer on the same side of the vehicle.

(5) Stacked bell pipes shall be loaded with bells on the opposite side of the vehicle to the bells of the pipe in the layer beneath.

(6) Where the second layer of stacked bell pipes is not complete, the bells of the pipes in the bottom layer that do not support a pipe above shall alternate on opposite sides of the vehicle.

**Single layer or bottom layer, small pipe**

**79(1)** This section applies to small pipes arranged in a single layer or in the bottom layer of stacked pipes.

(2) The front and the rear pipes of each group of pipes arranged in a single layer or in a bottom layer shall be immobilized lengthwise at each end by blocking, vehicle end structure, stakes, a locked pipe unloader or other equivalent means.

(3) Pipe that is not at the end of a group of pipes arranged in a single layer or in a bottom layer may be held in place by blocks, wedges or both.

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(4) A pipe in a single layer or in the bottom layer shall be held firmly in contact with the adjacent pipe by tiedowns running through the front and rear pipes of a group of pipes:

- (a) One or more tiedowns running through the front pipe of each group of pipes arranged in a single layer or in a bottom layer shall run rearward at an angle, where practical, of not more than 45 degrees with the horizontal; and
- (b) One or more tiedowns running through the rear pipe of each group of pipes arranged in a single layer or in a bottom layer shall run forward at an angle, where practical, of not more than 45 degrees with the horizontal.

**Tiedowns for securing layers of small pipes**

**80(1)** This section applies to all cargo of small pipes.

- (2) A pipe may be secured with a tiedown running through it.
- (3) Where each pipe is not secured individually with a tiedown:
  - (a) one 1.27 centimetre (1/2 inch) diameter chain or wire rope or two 0.95 centimetre (3/8 inch) diameter chains or wire ropes shall be placed lengthwise over the group of pipes; and
  - (b) one transverse tiedown shall be used for every 3.04 metres of cargo length.
- (4) The transverse tiedowns referred to in subsection (3) shall be placed:
  - (a) through a pipe on the top layer; or
  - (b) over the lengthwise tiedown between 2 pipes on the top layer.

**Top layer, small pipes**

**81(1)** This section applies to small pipes in the top layer of stacked pipes.

- (2) Where the first pipe of a group in the top layer is not placed in the first cylinder well formed by the pipes at the front of the layer beneath, it shall be secured by an additional tiedown that:
  - (a) runs rearward at an angle, where practical, of not more than 45 degrees to the horizontal; and
  - (b) passes through the front pipe of the upper layer or outside before the front pipe of the upper layer and over the lengthwise tiedown.
- (3) Where the last pipe of a group in the top layer is not placed in the last cylinder well formed by the pipes at the rear of the layer beneath, it shall be secured by an additional tiedown that:
  - (a) runs forward at an angle, where practical, of not more than 45 degrees to the horizontal; and
  - (b) passes through the rear pipe of the upper layer or outside after the rear pipe of the upper layer and over the lengthwise tiedown.

**Large pipes**

- 82(1) This section applies to the transportation of large pipe.
- (2) The front pipe and the rear pipe in a group of pipes transported on a vehicle shall be immobilized by blocking, wedges, vehicle end structure, stakes, locked pipe unloader or other equivalent means.
- (3) Each pipe in the front half of the group of pipes, including the middle one where there is an odd number, shall have at least one tiedown that passes through the pipe:
- (a) running rearward at an angle, where practical, of not more than 45 degrees with the horizontal; and
  - (b) holding the pipe firmly in contact with an adjacent pipe.
- (4) Each pipe in the rear half of the group of pipes, shall have at least one tiedown that passes through the pipe:
- (a) running forward at an angle, where practical, of not more than 45 degrees with the horizontal; and
  - (b) holding the pipe firmly in contact with an adjacent pipe.
- (5) Where the front pipe in a group of pipes is not in contact with the vehicle's end structure, stakes or other equivalent means, it shall be secured by at least 2 tiedowns positioned in accordance with subsection (3).
- (6) Where the rear pipe in a group of pipes is not in contact with the vehicle's end structure, stakes, a locked pipe unloader, or other equivalent means, it shall be secured by at least 2 tiedowns positioned in accordance with subsection (4).
- (7) Where the vehicle is transporting a single pipe, or several pipes that do not touch each other, a pipe shall be secured under this section as where it were the front or rear pipe in a group of pipes.

**Division 6 – Intermodal Containers****Application**

83 This Division applies to the transportation of intermodal containers.

**Intermodal container transported on container chassis vehicle**

- 84(1) This section applies to the transportation of an intermodal container on a container chassis vehicle.
- (2) Despite section 22, an intermodal container shall be secured to the container chassis with integral locking devices.
- (3) The integral locking devices used shall restrain each lower corner of the intermodal container from moving:
- (a) more than 1.27 centimetres forward;
  - (b) more than 1.27 centimetres rearward;

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- (c) more than 1.27 centimetres to the right;
  - (d) more than 1.27 centimetres to the left; and
  - (e) more than 2.54 centimetres vertically.
- (4) The front and the rear of the intermodal container shall be independently secured.

**Loaded intermodal container transported on other vehicles**

**85(1)** This section applies to the transportation of a loaded intermodal container on a vehicle that is not a container chassis vehicle.

- (2) All the lower corners of a loaded intermodal container shall:
- (a) rest on the vehicle; or
  - (b) be supported by a structure:
    - (i) capable of bearing the weight of the container; and
    - (ii) independently secured to the vehicle.
- (3) Despite section 22, an intermodal container shall be secured to the vehicle by either or both:
- (a) chains, wire ropes or integral locking devices that are fixed to all the lower corners;
  - (b) crossed chains that are fixed to all the upper corners.
- (4) The front and the rear of the intermodal container shall be independently secured.

**Empty intermodal container transported on other vehicles**

**86(1)** This section applies to the transportation of an empty intermodal container by a vehicle other than a container chassis vehicle.

- (2) All the lower corners of an empty intermodal container shall:
- (a) rest on the vehicle; or
  - (b) be supported by a structure:
    - (i) capable of bearing the weight of the container; and
    - (ii) independently secured to the vehicle.
- (3) An empty intermodal container is not required to comply with subsection (2) where:
- (a) the container is balanced, positioned and stable on the vehicle before tiedowns or other securing devices are attached; and
  - (b) the container does not overhang either the front or rear of the vehicle by more than 1.5 metres.
- (4) An empty intermodal container shall not interfere with the vehicle's manoeuvrability.

- (5) An empty intermodal container shall be secured against moving sideways, lengthwise or vertically in accordance with:
- (a) the provisions of section 85(3) and 85(4) of this Standard; or
  - (b) the provisions of section 22 of this Standard.

### **Division 7 – Vehicles as Cargo**

#### **Application**

**87** This Division applies to the transportation of light vehicles, heavy vehicles and flattened or crushed light vehicles.

#### **Light vehicles**

- 88(1)** Light vehicles shall be secured in accordance with this section.
- (2) Despite section 22, a light vehicle shall be restrained at both the front and rear from moving sideways, forward, rearward and vertically using a minimum of 2 tiedowns.
  - (3) Tiedowns that are designed to attach to the structure of a light vehicle shall be attached to the mounting points on the vehicle that are specifically designed for that purpose.
  - (4) Tiedowns that are designed to fit over or around the wheels of a light vehicle shall restrain the vehicle from moving sideways, forward, rearward and vertically.
  - (5) Despite section 20, edge protectors are not required for synthetic webbing at points where the webbing comes into contact with the tires of the light vehicle.

#### **Heavy vehicles**

- 89(1)** Heavy vehicles shall be transported in accordance with this section.
- (2) Accessory equipment on a heavy vehicle, including a hydraulic shovel, shall be completely lowered and secured to the vehicle.
  - (3) Articulated vehicles shall be restrained in a manner that prevents articulation while the vehicle is on a highway.
  - (4) Despite section 22, a heavy vehicle with crawler tracks or wheels shall be restrained against moving sideways, forward, rearward and vertically by at least 4 tiedowns:
    - (a) each with a working load limit of at least 2 268 kilograms; and
    - (b) each attached, as closely as practical, at the front and rear of the vehicle or to mounting points on the vehicle that are specifically designed for that purpose.

#### **Flattened or crushed light vehicles**

**90** Flattened or crushed light vehicles shall be secured in accordance with sections 91, 92 and 93.

#### **Prohibition**

**91** Synthetic webbing shall not be used to secure flattened or crushed light vehicles.

**H-3.01 REG 4 SECURITY OF LOADS AND TRIP INSPECTION****Securement system for immobilizing stacks of flattened or crushed vehicles**

**92(1)** Flattened or crushed light vehicles shall be transported with vehicles which:

- (a) have containment walls or comparable structures on 4 sides that:
    - (i) extend to the full height of the cargo; and
    - (ii) prevent the cargo moving forward, rearward and sideways;
  - (b) have containment walls or comparable structures on 3 sides that:
    - (i) extend to the full height of the cargo;
    - (ii) prevent the cargo moving forward, rearward and to one side; and
    - (iii) have 2 or more tiedowns per stack of flattened or crushed vehicles;
 or
  - (c) have containment walls or comparable structures on the front and rear that
    - (i) extend to the full height of the cargo;
    - (ii) prevent the cargo moving forward and rearward; and
    - (iii) have 3 or more tiedowns per stack of flattened or crushed vehicles;
 or
  - (d) have 4 or more tiedowns per stack of flattened or crushed vehicles.
- (2) Despite Part 1 Division 4, each tiedown referred to in subsection (1) shall have a working load limit of 2 268 kilograms or more.

**Containment of loose parts**

**93(1)** A vehicle transporting flattened or crushed light vehicles shall have equipment that:

- (a) extends the full height of the cargo; and
  - (b) prevents any loose part of the load from falling from the vehicle.
- (2) For the purposes of subsection (1), the equipment used to contain loose parts shall be structural walls, floors, sides or sideboards or suitable covering material, alone or in combination.

**Division 8 – Roll-on/Roll-off and Hook-lift Containers****Application**

**94** This Division applies to the transportation of roll-on/roll-off containers and hook-lift containers.

**Replacement of securing devices**

**95(1)** Where a front stop or lifting device of a securement system on a vehicle that is not equipped with an integral securement system is missing, damaged or not compatible with the securing devices on a container, additional manually installed tiedowns shall be used to secure the container to the vehicle.

(2) Where a front stop or lifting device of an integral securement system on a vehicle is missing, damaged or not compatible with the securing devices on a container, the container shall be secured to the vehicle using manually installed tiedowns.

(3) A manually installed tiedown shall provide the same level of securement as the missing, damaged or incompatible component it replaces.

**No integral securement system**

**96(1)** A roll-on/roll-off container or hook-lift container transported by a vehicle that is not equipped with an integral securement system:

- (a) shall be blocked against forward movement:
  - (i) by the lifting device, stops or a combination of both; or
  - (ii) by another restraint mechanism;
- (b) shall be secured to the front of the vehicle:
  - (i) by the lifting device; or
  - (ii) by another securing device which restrains against sideways and vertical movement; and
- (c) shall be secured to the rear of the vehicle in accordance with at least one of the following:
  - (i) one tiedown attached to both the vehicle chassis and the container;
  - (ii) 2 tiedowns installed lengthwise, each securing one side of the container to one of the vehicle's side rails;
  - (iii) 2 hooks, or equivalent mechanisms, securing both sides of the container to the vehicle chassis at least as effectively as the tiedowns referred to in subclauses (i) and (ii).

(2) A device used to secure a roll-on/roll off or hook-lift container to the rear of a vehicle that is not equipped with an integral securement system:

- (a) shall be installed not more than 2 metres from the rear of the container; and
  - (b) despite Part 1 Division 4, all tiedowns shall have a working load limit of at least 2 268 kilograms.
- (3) Sections 10(2) and 10(3) do not apply to this Division.

**Division 9 – Boulders**

**Application**

**97(1)** This Division applies to the transportation of boulders:

- (a) on a flatbed vehicle; or
- (b) in a vehicle whose sides are not designed and rated to contain such a cargo.

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(2) A piece of natural, irregularly shaped rock that weighs more than 100 kilograms but less than 5 000 kilograms may be secured in accordance with this Division.

(3) A piece of natural, irregularly shaped rock of any size may be contained within a vehicle that is designed to carry such a cargo.

(4) A piece of rock of any size that is artificially formed or cut into shape and has a stable base for securement may be secured in accordance with this Division.

**Positioning on vehicle**

**98(1)** A boulder shall be placed with its flattest or its largest side down on the deck.

(2) A boulder shall be supported on at least 2 pieces of hardwood blocking:

- (a) with side dimensions of not less than 8.9 centimetres by 8.9 centimetres;
- (b) that extend the full width of the boulder;
- (c) that are placed as symmetrically as possible under the boulder; and
- (d) that support at least 3/4 of the length of the boulder.

(3) Where the flattest side of a boulder is rounded or partially rounded and the boulder may roll:

- (a) the boulder shall be in a crib made of hardwood fixed to the deck;
- (b) the boulder shall rest on both the deck and the crib; and
- (c) the boulder shall have at least three well-separated points of contact with the crib and deck to prevent the boulder from rolling in any direction.

(4) Where a boulder is tapered, the narrowest end shall point towards the front of the vehicle.

**Tiedowns**

**99(1)** A tiedown used to secure a boulder shall be made of chain.

(2) A tiedown that touches a boulder:

- (a) shall, where possible, be located in valleys or notches across the top of the boulder; and
- (b) shall be arranged so that it does not slide across the rock surface.

**Number of tiedowns**

**100(1)** Despite section 22, each cubic shaped boulder shall be secured with 2 or more tiedowns placed:

- (a) transversely across the vehicle; and
- (b) as closely as possible to the hardwood blocking.



(2) Despite section 22, each non-cubic shaped boulder with a stable base shall be secured with 2 or more tiedowns:

- (a) forming an "X" pattern over the boulder;
- (b) passing over the centre of the boulder; and
- (c) attached to each other, where they intersect, by a shackle or other connecting device.

(3) Despite sections 10(2), 10(3) and 22, each non-cubic shaped boulder with unstable base shall be secured with:

- (a) one tiedown surrounding the top of the boulder:
  - (i) located at a point between 1/2 and 2/3 of the height of the boulder; and
  - (ii) having a working load limit of at least half of the weight of the boulder; and
- (b) 4 tiedowns, each:
  - (i) attached to the surrounding tiedown and to the vehicle that prevent the boulder moving horizontally;
  - (ii) having a working load limit of at least 1/4 the weight of the boulder; and
  - (iii) shall be placed at an angle, where practical, of not more than 45 degrees from the horizontal.

### PART 3 – DEFAULT WORKING LOAD LIMITS

#### Section 1 – Chain

Size	Working Load Limit
7 mm (1/4 in)	590 kg (1300 lb.)
8 mm (5/16 in)	860 kg (1900 lb.)
10 mm (3/8 in)	1 200 kg (2650 lb.)
11 mm (7/16 in)	1 590 kg (3500 lb.)
13 mm (1/2 in)	2 040 kg (4500 lb.)
16 mm (5/8 in)	3 130 kg (6900 lb.)

#### Section 2 – Synthetic Webbing

Width	WLL
45 mm (1-3/4 in)	790 kg (1750 lb.)
50 mm (2 in)	910 kg (2000 lb.)
75 mm (3 in)	1 360 (3000 lb.)
100 mm (4 in)	1 810 kg (4000 lb.)

**H-3.01 REG 4 SECURITY OF LOADS AND TRIP INSPECTION**Section 3 – Wire Rope (6 x 37, Fiber Core)

<b>Diameter</b>	<b>WLL</b>
7 mm (1/4 in)	640 kg (1400 lb.)
8 mm (5/16 in)	950 kg (2100 lb.)
10 mm (3/8 in)	1 360 kg (3000 lb.)
11 mm (7/16 in)	1 860 kg (4100 lb.)
13 mm (1/2 in)	2 400 kg (5300 lb.)
16 mm (5/8 in)	3 770 kg (8300 lb.)
20 mm (3/4 in)	4 940 kg (10900 lb.)
22 mm (7/8 in)	7 300 kg (16100 lb.)
25 mm (1 in)	9 480 kg (20900 lb.)

Section 4 – Manila Rope

<b>Diameter</b>	<b>WLL</b>
10 mm (3/8 in)	90 kg (205 lb.)
11 mm (7/16 in)	120 kg (265 lb.)
13 mm (1/2 in)	150 kg (315 lb.)
16 mm (5/8 in)	210 kg (465 lb.)
20 mm (3/4 in)	290 kg (640 lb.)
25 mm (1 in)	480 kg (1050 lb.)

Section 5 – Synthetic Fiber Rope

<b>Diameter</b>	<b>WLL</b>
10 mm (3/8 in)	185 kg (410 lb.)
11 mm (7/16 in)	240 kg (530 lb.)
13 mm (1/2 in)	285 kg (630 lb.)
16 mm (5/8 in)	420 kg (930 lb.)
20 mm (3/4 in)	580 kg (1280 lb.)
25 mm (1 in)	950 kg (2100 lb.)

Section 6 – Steel Strapping

<b>Width-thickness inch</b>	<b>WLL</b>
1-1/4 x 0.029	540 kg (1190 lb.)
1-1/4 x 0.031	540 kg (1190 lb.)
1-1/4 x 0.035	540 kg (1190 lb.)
1-1/4 x 0.044	770 kg (1690 lb.)
1-1/4 x 0.050	770 kg (1690 lb.)
1-1/4 x 0.057	870 kg (1925 lb.)
2 x 0.044	1 200 kg (2650 lb.)
2 x 0.050	1 200 kg (2650 lb.)

## PART 4 – MANUFACTURING STANDARDS

Section 1 – Vehicle Structure

Truck Trailer Manufacturers Association – RP47

Section 2 – Anchor Points

Canadian Motor Vehicle Safety Standard (CMVSS 905)

Truck Trailer Manufacturers Association – RP47

Section 3 – Platform Bodies (Flatdecks)

Truck Trailer Manufacturers Association – RP47

Section 4 – Van, Sided & Dump Bodies

Truck Trailer Manufacturers Association – RP47

Web Sling and Tiedown Association

Recommended Standard Specification for Interior Van Securement WSTDA-T5Section 5 – Tiedowns

Web Sling and Tiedown Association

Recommended Standard Specification for Synthetic Webbing Tiedowns WSTDA-T1Recommended Standard Specification for Winches Used With Synthetic  
Web Tiedowns WSTDA-T3Recommended Standard Specification for Interior Van Securement WSTDA-T5Section 6 – Webbing Assemblies

Web Sling and Tiedown Association

Recommended Standard Specification for Synthetic Webbing Tiedowns WSTDA-T1Recommended Operating, Care and Inspection Manual for Synthetic  
Web Tiedowns WSTDA-T2Recommended Standard Specification for Synthetic Webbing Used  
for Tiedowns WSTDA-T4

**H-3.01 REG 4 SECURITY OF LOADS AND TRIP INSPECTION**Section 7 – Chain Assemblies

National Association of Chain Manufacturers  
Welded Steel Chain Specifications

Welded Steel Chain – Working Load Limits

<b>Size mm (in)</b>	<b>Grade 3 proof coil</b>	<b>Grade 43 High test</b>	<b>Grade 70 Transport</b>	<b>Grade 80 Alloy</b>	<b>Grade 100 Alloy</b>
7 mm (1/4 in)	590 kg (1300 lb.)	1 180 kg (2600 lb)	1 430 kg (3150 lb)	1 570 kg (3500 lb)	1 950 kg (4300 lb)
8 mm (5/16 in)	860 kg (1900 lb.)	1 770 kg (3900 lb)	2 130 kg (4700 lb)	2 000 kg (5100 lb)	2 600 kg (5700 lb)
10 mm (3/8 in)	1 200 kg (2650 lb.)	2 450 kg (5400 lb)	2 990 kg (6600 lb)	3 200 kg (7100 lb)	4 000 kg (8800 lb)
11 mm (7/16 in)	1 590 kg (3500 lb.)	3 270 kg (5800 lb)	3 970 kg (8750 lb)	–	–
13 mm (1/2 in)	2 040 kg (4500 lb.)	4 170 kg (9200 lb)	5 130 kg (11 300 lb)	5 400 kg (12000 lb)	6 800 kg (15000 lb)
16 mm (5/8 in)	3 130 kg (6900 lb.)	5 910 kg (11500 lb)	7 170 kg (15800 lb)	8 200 kg (18100 lb)	10 300 kg (22600 lb)
Chain Marks	3 30 300	4 43 430	7 70 700	8 80 800	10 100 1000

Section 8 – Wire Rope and Attachments

Wire Rope Technical Board  
Wire Rope Users Manual

Section 9 – Synthetic Rope and Attachments

Cordage Institute:

CI-1301-96 Polyester Fiber Rope, 3 and 8 Strand Constructions

CI-1302A-96 Polyester/Polyolefin Dual Fiber Rope, 3 Strand Construction

CI-1302B-99 Polyester/Polyolefin Dual Fiber Rope, 8 Strand Construction

CI-1304-96 Polyester Fiber Rope, 3 and 8 Strand Constructions

CI-1305-96 Single Braided Polyester Fiber Rope, 12 Strand Construction

CI-1307-96 Polyester Fiber Rope, Double Braid Construction

CI-1307-96 Polyester Fiber Rope, High Performance Double Braid Construction

CI-1303-96 Nylon (Polyamide) Fiber Rope, 3 and 8 Strand Constructions

CI-1307-96 Nylon (Polyamide) Fiber Rope, Double Strand Construction

CI-1307-96 Nylon (Polyamide) Fiber Rope, High Performance

Double Braid Construction

Section 10 – Steel Strapping

American Society for Testing and Materials

Standard Specification for Strapping, Flat Steel and Seals (ASTM D3953-91)

Section 11 – Clamps and Latches

International Standards Organization – 668

Section 12 – Roll-on/Roll-off Containers

American National Standards Institute

Mobile Wastes and Recyclable Materials Collection, Transportation, and Compaction

Equipment – Safety Requirements (ASC Z245.1 – 1999)

Waste Containers - Safety Requirements (ASC Z245.30 -1999)

Waste Containers - Compatibility Requirements (ASC Z245.60-1999)

**Appendix B**

**Figure 1**

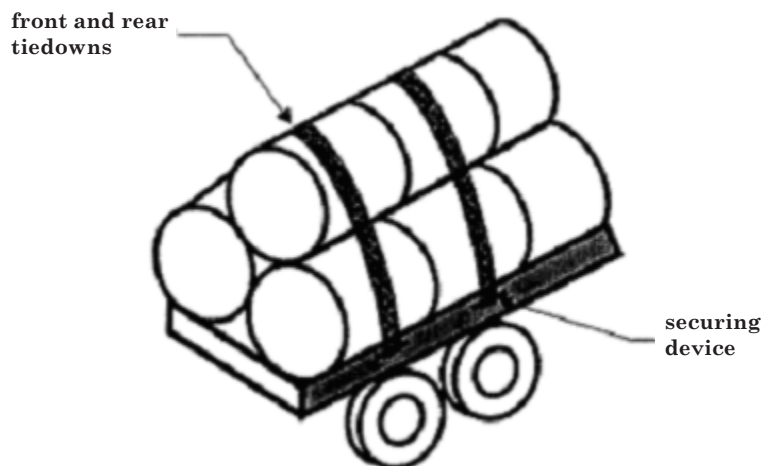


Figure 2

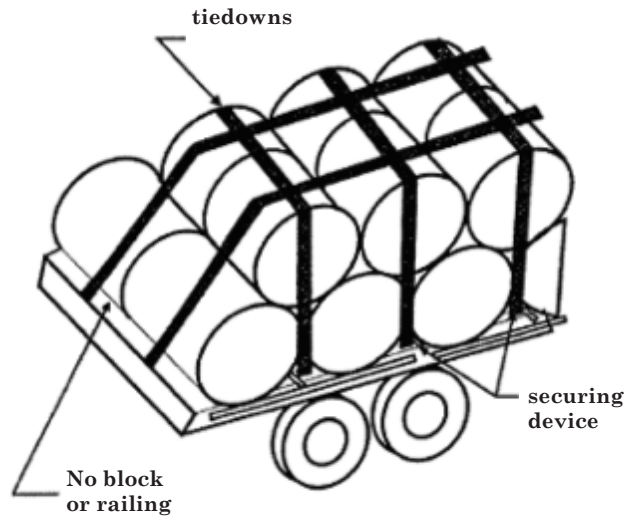
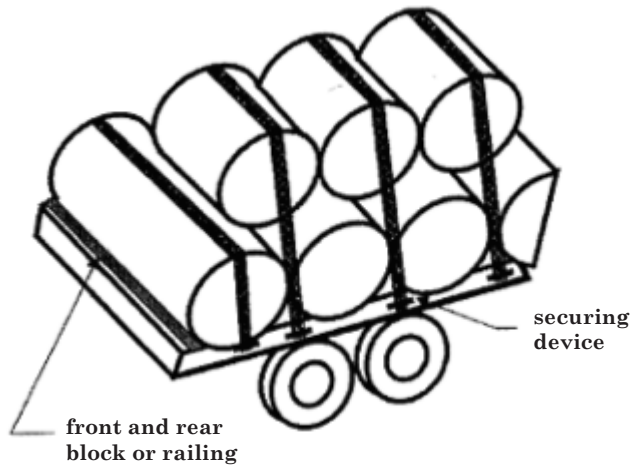


Figure 3



## Appendix C

### NSC Daily Vehicle Trip Inspection for Trucks, Tractors and Trailers

#### Definitions

For the purpose of this Standard, the following definitions apply:

**“commercial vehicle”** *(as defined in NSC)* A truck, tractor or trailer or combination thereof exceeding a registered gross vehicle weight of 4 500 kg.

**“inspector”** *(as defined in NSC)* A person duly authorized to enforce federal or provincial statutes related to the Code.

**“motor carrier”** *(as defined in NSC)* A person who owns, leases or is responsible for the operation of a commercial vehicle for the purpose of transporting passengers or goods.

### NSC Standard 13: Trip Inspections

#### PART 1 – GENERAL REQUIREMENTS

##### Vehicles to be inspected

**1** No motor carrier shall permit a person and no person shall drive or operate a commercial vehicle on a highway unless the vehicle is inspected as required.

##### Carrier to issue inspection schedules

**2** Motor carriers shall provide the applicable schedule(s) of inspection items in a written or an equivalent electronic format and all vehicles shall be inspected in accordance with the schedule(s).

##### Driver to carry and surrender schedules

**3** Drivers of a commercial vehicle shall have in their possession the applicable schedule(s) of inspection items and shall provide the schedules on demand of an inspector.

##### Required inspections (when operated)

**4(1)** Trucks, tractors and trailers shall be inspected in accordance with Schedule 1 every 24 hours.

(2) Buses and any attached trailer shall be inspected in accordance with Schedule 1 or Schedule 2 every 24 hours.

##### Report to be completed

**5(1)** A person conducting an inspection in accordance with Schedule 1 or Schedule 2 shall prepare a report in a written or an equivalent electronic format that contains the following information:

- (a) license plate or unit number(s) of the vehicle(s);
- (b) motor carrier’s name;
- (c) date and time of inspection;
- (d) city, town, village or highway location where the inspection was performed;

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- (e) a statement signed by the person conducting the inspection and by the person driving the vehicle (if different than the person inspecting the vehicle) that the vehicle(s) identified on the report has(have) been inspected in accordance with applicable requirements;
- (f) the legible printed name of the person conducting the inspection; and
- (g) odometer reading (if equipped).

**Report to be carried**

**6** No motor carrier shall permit and no person shall drive a commercial vehicle on a highway unless that person is in possession of the required inspection report(s).

**Driver to provide report**

**7** A driver of a commercial vehicle shall provide a paper or equivalent electronic copy of the required inspection report(s) on demand of an inspector.

**When no defects are detected**

**8** When no defects are detected during an inspection, the person conducting the inspection shall record that fact on the inspection report(s).

**When defects are detected**

**9** A person conducting an inspection in accordance with Schedule 1 or Schedule 2 shall record on the inspection report any defects detected during the inspection and shall report such defects to the motor carrier or a person appointed by the motor carrier prior to the next required inspection.

**Driver to monitor vehicle while driving**

**10** While driving and/or otherwise being in charge of a commercial vehicle, the driver shall monitor its condition in accordance with the schedule of inspection items, and when defects are detected, the driver shall record the defects on the inspection report and report the defects to the motor carrier prior to the next required inspection.

**Major defects to be reported immediately**

**11** When major defects are detected or disclosed to the driver while driving or otherwise being in charge of a vehicle, they shall be recorded on the inspection report and reported to the motor carrier immediately.

**Vehicle not to be operated with major defect**

**12** No motor carrier shall permit a person and no person shall drive a commercial vehicle on a highway when a major defect is present on the vehicle.

**Carrier to ensure defects are corrected**

**13** Motor carriers shall ensure that all previously reported vehicle defects are corrected before the next required inspection or within a time frame specified by the jurisdiction of travel.

**Report to be given to motor carrier**

**14** Drivers shall forward the original of each inspection report to the motor carrier who is responsible for the commercial vehicle within 20 calendar days of the completion of the report.

**Motor carrier records**

**15** Motor carriers shall retain the original copy of each vehicle inspection report and certification of repairs for at least 6 months from the date the report was prepared.



## PART 2 – SCHEDULES

## Schedule 1 – Truck, Tractor and Trailer

**Application**

This schedule applies to trucks, tractors and trailers or combinations thereof exceeding a registered gross vehicle weight of 4 500 kg.

	<b>Defect(s)</b>	<b>Major Defect(s)</b>
1. Air Brake System	- Audible air leak - Slow air	- Pushrod stroke of any brake pressure build-up rate exceeds the adjustment limit  - Air loss rate exceeds prescribed limit  - Inoperative towing vehicle (tractor) protection system  - Low air warning system fails or system is activated  - inoperative service, parking or emergency brake
2. Cab	- Occupant compartment door fails to open	- Any door fails to close securely
3. Cargo Securement	- Insecure or improper load covering	- Insecure cargo - Absence, failure, malfunction or deterioration of required cargo securement device or load covering
4. Coupling Devices	- Coupler or mounting has loose or missing fastener	- Coupler is insecure or movement exceeds prescribed limit  - Coupling or locking mechanism is damaged or fails to lock  - Defective, incorrect or missing safety chain/cable
5. Dangerous Goods		- Dangerous goods requirements not met
6. Driver controls	- Accelerator pedal, clutch, gauges, audible and visual indicators or instruments fail to function properly	
7. Driver Seat	- Seat is damaged or fails to remain in set position	- Seatbelt or tether belt is insecure, missing or malfunctions

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	<b>Defect(s)</b>	<b>Major Defect(s)</b>
8. Electric Brake System	- Loose or insecure wiring or electrical connection	- Inoperative breakaway device - Inoperative brake
9. Emergency Equipment and Safety Devices	- Emergency equipment is missing, damaged or defective	
10. Exhaust System	- Exhaust leak	- Leak that causes exhaust gas to enter the occupant compartment
11. Frame and Cargo Body	- Damaged frame or cargo body	- Visibly shifted, cracked, collapsing or sagging frame member(s)
12. Fuel System	- Missing fuel tank cap	- Insecure fuel tank - Dripping fuel leak
13. General		- Serious damage or deterioration that is noticeable and may affect the vehicle's safe operation
14. Glass and Mirrors	- Required mirror or window glass fails to provide the required view to the driver as a result of being cracked, broken, damaged, missing or maladjusted - Required mirror or glass has broken or damaged attachments onto vehicle body	
15. Heater/Defroster	- Control or system failure	- Defroster fails to provide unobstructed view through the windshield
16. Horn	- Vehicle has no operative horn	
17. Hydraulic Brake System	- Brake fluid level is below - Parking brake is inoperative	- Brake boost or power assist indicated minimum level is not operative - Brake fluid leak - Brake pedal fade or insufficient brake pedal reserve - Activated (other than ABS) warning device - Brake fluid reservoir is less than 1/4 full

	<b>Defect(s)</b>	<b>Major Defect(s)</b>
18. Lamps and Reflectors	<ul style="list-style-type: none"> <li>- Required lamp does not function as intended</li>   <li>- Required reflector is missing or partially missing</li> </ul>	<p><i>When lamps are required:</i></p> <ul style="list-style-type: none"> <li>- Failure of both low-beam headlamps</li>   <li>- Failure of both rearmost tail lamps</li> </ul> <p><i>At all times:</i></p> <ul style="list-style-type: none"> <li>- Failure of a rearmost turn indicator lamp</li>   <li>- Failure of both rearmost brake lamps</li> </ul>
19. Steering	<ul style="list-style-type: none"> <li>- Steering wheel lash (free-play) is greater than normal</li> </ul>	<ul style="list-style-type: none"> <li>- Steering wheel is insecure, or does not respond normally</li> <li>- Steering wheel lash (free-play) exceeds required limit</li> </ul>
20. Suspension System	<ul style="list-style-type: none"> <li>- Air leak in air suspension system- Broken spring leaf</li> </ul>	<ul style="list-style-type: none"> <li>- Suspension fastener is loose, missing or broken</li> <li>- Damaged, deflated air bag</li> <li>- Cracked or broken main spring leaf or more than one broken spring leaf</li> <li>- Part of spring leaf or suspension is missing, shifted out of place or in contact with another vehicle component</li> <li>- Loose U-bolt</li> </ul>
21. Tires	<ul style="list-style-type: none"> <li>- Damaged tread or sidewall of tire</li>   <li>- Tire leaking</li> </ul>	<ul style="list-style-type: none"> <li>- Flat tire</li>   <li>- Tire tread depth is less than wear limit</li> <li>- Tire is in contact with another tire or any vehicle component other than mud-flap</li> <li>- Tire is marked "Not for highway use"</li> <li>- Tire has exposed cords in the tread or outer side wall area</li> </ul>

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	<b>Defect(s)</b>	<b>Major Defect(s)</b>
22. Wheels, Hubs and Fasteners	- Hub oil below minimum level (when fitted with sight glass)	- Leaking wheel seal - Wheel has loose, missing or ineffective fastener  - Damaged, cracked or broken wheel, rim or attaching part  - Evidence of imminent wheel, hub or bearing failure
23. Windshield Wiper/Washer	- Control or system malfunction  - Wiper blade damaged, missing or fails to adequately clear driver's field of vision	<i>When necessary for prevailing weather conditions:</i>  - Wiper or washer fails to adequately clear driver's field of vision in area swept by driver's side wiper

**Schedule 2 – Bus****Application**

This schedule applies to buses designed, constructed and used for the transportation of passengers with a designated seating capacity of more than 10, including the driver, but excluding the operation for personal use, and also applies to any trailer towed by a bus.

	<b>Defect(s)</b>	<b>Major Defect(s)</b>
1. Accessibility Devices	<i>Accessibility device may not be used if:</i> - Alarm fails to operate  - Equipment malfunctions  - Interlock system malfunctions	- Vehicle fails to return to normal level after “kneeling”  - Extendable lift, ramp or other passenger-loading device fails to retract
2. Air Brake System	- Audible air leak  - Slow air pressure build-up rate	- Pushrod stroke of any brake exceeds the adjustment limit  - Air loss rate exceeds prescribed limit  - Inoperative towing vehicle (tractor) protection system  - Low air warning system fails or system is activated  - Inoperative service, parking or emergency brake

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	<b>Defect(s)</b>	<b>Major Defect(s)</b>
3. Cargo Securement	- Insecure or improper load covering	- Insecure cargo - Absence, failure, malfunction or deterioration of required cargo securement device or load covering
4. Coupling Devices	- Coupler or mounting has loose or missing fastener	- Coupler is insecure or movement exceeds prescribed limit - Coupling or locking mechanism is damaged or fails to lock - Defective, incorrect or missing safety chain/cable
5. Dangerous Goods	- Dangerous goods requirements not met	
6. Doors and Emergency Exits	- Door, window or hatch fails to open or close securely - Alarm inoperative	<i>Passengers may not be carried.</i> - Required emergency exit fails to function as intended
7. Driver Controls	- Accelerator pedal, clutch, gauges, audible and visual indicators or instruments fail to function properly	- Accelerator sticking and engine fails to return to idle
8. Driver Seat	- Seat is damaged or fails to remain in set position	- Seatbelt or tether belt is insecure, missing or malfunctions
9. Electric Brake System	- Loose or insecure wiring or electrical connection	- Inoperative breakaway device - Inoperative brake
10. Emergency Equipment and Safety Devices	- Emergency equipment is missing, damaged or defective	
11. Exhaust System	- Exhaust leak	- Leak that causes exhaust gas to enter the occupant compartment
12. Exterior Body and Frame	- Insecure or missing body parts	- Insecure or missing compartment door - Damaged frame or body - Visibility shifted, cracked, collapsing or sagging frame member(s)

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	<b>Defect(s)</b>	<b>Major Defect(s)</b>
13. Fuel System		<ul style="list-style-type: none"> <li>- Missing fuel tank cap</li> <li>- Insecure fuel tank</li> <li>- Dripping fuel leak</li> </ul>
14. General		- Serious damage or deterioration that is noticeable and may affect the vehicle's safe operation
15. Glass and Mirrors	<ul style="list-style-type: none"> <li>- Required mirror or window glass fails to provide the required view to the driver as a result of being cracked, broken, damaged, missing or maladjusted</li> <li>- Required mirror or glass has broken or damaged attachments onto vehicle body</li> </ul>	<i>Passengers may not be carried.</i> <ul style="list-style-type: none"> <li>- Driver's view of the road is obstructed in the area swept by the windshield wipers.</li> </ul>
16. Heater/Defroster	- Control or system failure	- Defroster fails to provide unobstructed view through the windshield
17. Horn	- Vehicle has no operative horn	
18. Hydraulic Brake System	<ul style="list-style-type: none"> <li>- Brake fluid level is below indicated minimum level</li> <li>- Parking brake is inoperative</li> </ul>	<ul style="list-style-type: none"> <li>- Brake boost or power assist is not operative</li> <li>- Brake fluid leak</li> <li>- Brake pedal fade or insufficient brake pedal reserve</li> <li>- Activated (other than ABS) warning device</li> <li>- Brake fluid reservoir is less than 1/4 full</li> </ul>
19. Lamps and Reflectors	<ul style="list-style-type: none"> <li>- Required interior lamp does not function as intended</li> <li>- Required reflector is missing or partially missing</li> <li>- Passenger safety or access lamp does not function</li> </ul>	<i>When lamps are required:</i> <ul style="list-style-type: none"> <li>- Failure of both low-beam headlamps</li> <li>- Failure of both rearmost tail lamps</li> </ul> <i>At all times:</i> <ul style="list-style-type: none"> <li>- Failure of a rearmost turn-indicator lamp</li> <li>- Failure of both rearmost brake lamps</li> </ul>

	<b>Defect(s)</b>	<b>Major Defect(s)</b>
20. Passenger Compartment	<ul style="list-style-type: none"> <li>- Stanchio padding is damaged</li> <li>- Damaged steps or floor</li> <li>- Insecure or damaged overhead luggage rack or compartment</li> <li>- Malfunction or absence of required passenger or mobility device restraints</li> <li>- Passenger seat is insecure</li> </ul>	<p><i>When affected position is occupied:</i></p> <ul style="list-style-type: none"> <li>- Malfunction or absence of required passenger or mobility device restraints</li> <li>- Passenger seat is insecure</li> </ul>
21. Steering	<ul style="list-style-type: none"> <li>- Steering wheel lash (free-play) is greater than normal</li> </ul>	<ul style="list-style-type: none"> <li>- Steering wheel is insecure, or does not respond normally</li> <li>- Steering wheel lash (free-play) exceeds required limit</li> </ul>
22. Suspension System	<ul style="list-style-type: none"> <li>- Air leak in air suspension system</li> <li>- Broken spring leak</li> <li>- Suspension fastener is loose, missing or broken</li> </ul>	<ul style="list-style-type: none"> <li>- Damaged, deflated air bag</li> <li>- Cracked or broken main spring leaf or more than one broken spring leaf</li> <li>- Part of spring leaf or suspension is missing, shifted out of place or in contact with another vehicle component</li> <li>- Loose U-bolt</li> </ul>
23. Tires	<ul style="list-style-type: none"> <li>- Damaged tread or sidewall of tire</li> <li>- Tire leaking</li> </ul>	<ul style="list-style-type: none"> <li>- Flat tire</li> <li>- Tire tread depth is less than wear limit</li> <li>- Tire is in contact with another tire or any vehicle component other than mud-flap</li> <li>- Tire is marked "Not for highway use"</li> <li>- Tire has exposed cords in the tread or outer side wall area</li> </ul>

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	<b>Defect(s)</b>	<b>Major Defect(s)</b>
24. Wheels, Hubs and Fasteners	<ul style="list-style-type: none"> <li>- Hub oil below minimum level (when fitted with sight glass)</li> <li>- Leaking wheel seal</li> </ul>	<ul style="list-style-type: none"> <li>- Wheel has loose, missing or ineffective fastener</li> <li>- Damaged, cracked or broken wheel, rim or attaching part</li> <li>- Evidence of imminent wheel, hub or bearing failure</li> </ul>
25. Windshield Wiper/Washer	<ul style="list-style-type: none"> <li>- Control or system malfunction</li> <li>- Wiper blade damaged, missing or fails to adequately clear driver's field of vision</li> </ul>	<p><i>When necessary for prevailing weather conditions:</i></p> <ul style="list-style-type: none"> <li>- Wiper or washer fails to adequately clear driver's field of vision in area swept by driver's side wiper</li> </ul>

15 Apr 2005 cH-3.01 Reg 4.