MANITOBA
PUBLIC INSURANCE

Lesson 9

Cargo Securement

Exercise Book

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Introduction

Purpose

This Exercise Book contains exercises related to MANDATORY ENTRY-LEVEL TRAINING MANITOBA CLASS 1 (MELT) PROGRAM Lesson 9.

Approach

This lesson covers cargo securement through:

- In-class instruction
- The course textbook
- In-yard demonstration
- In-yard assessment

Tips for End Users

Use all the reference materials provided to complete the exercises.

Exercise 1: Cargo and Securement

Instructions

- Answer the questions below
- Use the resources listed to assist you (if required)

Resources:

- Course textbook
- In-class instruction

Introduction

A tractor-trailer driver is responsible for the safe transportation of goods while they are in transit. In addition to sound driving skills, truck drivers are required to have basic skills on properly handling cargo. While many drivers do not load or supervise cargo loading, they are responsible for verifying that the cargo is properly secured.

Questions:

1. How often should the cargo be inspected by the driver, and why?

2. According to NSC standards, cargo and other objects must not:

3. The “working load limit” (WLL) of a securement device refers to the minimum load that may be applied to that device during normal service. True or False.

4. A truck's securement system has three components. Fill in the table below for each component, listing the parts:

System Component	Parts of the component
Vehicle structure	
Securing devices	
Blocking and bracing equipment	

3. What is the aggregate (combined) working load limit and how is it calculated?

4. Calculate the number of tie-downs needed for cargo in each scenario:

	Scenario	Number of tie-downs
a.	Non-blocked cargo: 1.23 m and 650 kg	
b.	Non-blocked cargo: 4.8 m and 480 kg	
c.	Blocked cargo 1.48 m and 900 kg	
d.	Non-blocked cargo 1.48 m and 175 kg	

5. List and explain the 3 transporting and securing cargo methods:

Exercise 2: Structure & Specific Cargo Requirements

Instructions

- Answer the questions below
- Use the resources listed to assist you (if required)

Resources:

- Course textbook
- In-class instruction

Questions:

1. What are the criteria requirements front end structures must meet?

2. List the types of cargo that have specific securement requirements according to the NSC Standard 10, along with the division it falls under:

3. Boulders must be transported according to Division 9, NSC Standard 10 in the following situations:

4. What containers are used primarily to transport waste and scrap?

5. Cargo weight must be balanced between the drive and rear axles to allow easy handling and steering of the truck. To evenly distribute a load in a trailer:
(Fill in the blank).

   a. When possible, load _____ of the total weight of cargo in front and

      _____ in the rear.

   b. The load should be spread over the _____ from side to side to prevent shifting.
      Ensure that heavy freight is loaded on the _____.

   c. After part of the cargo has been unloaded, ensure that _____ is moved as needed for even weight distribution.

   d. Trailer weight may be adjusted by sliding the _____ of the tractor (if adjustable).

In-Yard Assessment Preparation

Instructions

- Use the following checklist to prepare for the in-yard assessment of cargo securement
- Use the resources listed to assist you (if required)

Resources:

- Course textbook and list provided below

Introduction

A cargo inspection should be carried out before you start driving for the day. Commercial vehicle drivers must regularly inspect the vehicle's cargo and cargo securement systems and make necessary adjustments before driving the vehicle and not more than 80 kilometres from where the cargo was loaded.

Drivers must re-inspect cargo and the cargo securement system and make any necessary adjustments at specified intervals.

The In-Yard Assessment for Lesson 9 Cargo Securement will include initial securement and inspection. Use the following list to review and prepare for the In-Yard Assessment.

Cargo Securement Procedures	Pre-Trip Check
Checks vehicle structure in good working condition	Checks vehicle's spring for signs of overloading
Confirms appropriate securing devices	Checks vehicles tires for signs of overloading
Checks for appropriate blocking and bracing equipment	Checks for bowing of trailer
Confirms condition of tie downs	Checks for sufficient power to pull load
Confirms tie downs are appropriately labeled	Checks handling characteristics of vehicle
Checks that tie downs are located inside rub rails	Checks if cargo is damaged
Calculates aggregate working load limit	Confirms weight of cargo
Confirms edge protection	Checks weight distribution
Uses appropriate number of tie downs	Checks for regulated or restricted materials
Confirms requirements of height and width of the front end structure (if applicable)	Checks for fragile materials
Checks strength of front end structure	Ensures no loose freight
Ensures front end structure ability to resist penetration of cargo	Ensures cargo secured by holding devices
Checks legal weight of tractor-trailer	Checks position of heavy load (if applicable)
Checks overall length of the vehicle	Ensures cargo securement components are secure
Checks overall weight of cargo	Ensures cargo does not interfere with driving abilities
Loads half weight in front and half weight in rear	Ensures cargo does not obstruct view
Adjusts load per axle weight limitations	Confirms cargo does not prevent easy access to emergency equipment
Adjusts trailer weight by sliding rear axles of tractor (if applicable)	

Additional Notes / Exercise Area