

MANDATORY ENTRY-LEVEL TRAINING MANITOBA CLASS 1 **Lesson 5**

Instructor's Guide



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Overview

Purpose/Objectives

This lesson provides instruction on basic driving strategies.

After completing this lesson, students should be able to:

- Prepare and start to drive a commercial vehicle
- Comply with operational regulations that apply to commercial vehicles
- Operate a commercial vehicle in a safe manner
- Perform basic driving manoeuvres

How long should it take?

Classroom (hours)			In-Yard (hours)			In-Cab (hours)			Total Training Duration (hours)
Deliver	Apply	Assess	Deliver	Apply	Assess	Deliver	Apply	Assess	
8.0		0.5	0.5	0.5		0.5	19.0	0.5	29.5

Required materials

- Whiteboard or flipchart
- Markers
- Projector
- PPT presentation
- Printed and electronic quizzes
- Pens

Using this document

This document is intended to guide you through the session. It includes the following icons for reference:

► Direction on what you need to do

🔊 Sample language for what you need to say

? Sample wording for what you need to ask

① Extra information to consider



Lesson Outline

Time (Approx. mins)	Topic	Materials	Slides
20	Introduction		1-3
60	Driver's "Duty of Care"		4-23
120	Defensive Driving		24-35
20	Potentially Hazardous Situations		36-40
20	Start-up and Warm Up Procedures		41-48
120	Basic Driving and Manoeuvres		49-78
30	Classroom Assessment		79
60	Mid-Term Competency Exam		80
60	Practical In-Yard/In-Cab Demo		81
1,170	Practical In-Yard/In-Cab Application		82
30	Practical In-Cab Assessment		83
60	Summary		84

Total time = 29.5 hrs

i Times are an approximation of what is expected in a 15-student class with active participation. Times also include in-yard demonstration, application, and assessments.

Student Materials

- Lesson 5: Exercise Book
- Textbook
- MPI Focus on the Road pamphlet
- Trucking Safety Council of BC Fatigue Management one-pager
- Professional Driver's Manual
- Lesson 5 Practical Job Aid
- Lesson 4 Practical Job Aid 1
- Lesson 4 Practical Job Aid 2
- Lesson 4 Practical Job Aid 3
- Lesson 4 Practical Job Aid 4



Introduction

Objectives: In this lesson, students learn how to prepare to start driving and basic driving strategies.

Time: 5 minutes

Slide: 1 Type: Presentation

- ▶ Welcome students and allow time to settle if this is a new day of classroom delivery.
- ▶ Regardless of how the schedule and the lessons are taught, students must have completed lessons 1-4 before into a vehicle to perform driving manoeuvres in Lesson 5.



Slide: 2 Type: Presentation

- ▶ This lesson is intended to provide information about the steps that should be taken prior to driving a commercial vehicle, and to provide an opportunity to practice these steps.

Upon completing this lesson, you should be able to:

- Prepare and start to drive a commercial vehicle
- Comply with operational regulations that apply to commercial vehicles
- Operate a commercial vehicle in a safe manner
- Perform basic driving manoeuvres

Learning Objectives

After completing this lesson, you should be able to:

- Prepare and start to drive a commercial vehicle
- Comply with operational regulations that apply to commercial vehicles
- Operate a commercial vehicle in a safe manner
- Perform basic driving manoeuvres



Full details of basic driving strategies are in Section 5 of the **textbook**. Use this as a reference throughout the lesson.

Slide: 3 Type: Discussion

- ▶ After the last class, you were asked to review Lesson 4.

Do you have any questions about the lesson?

Pre-Class Assignment

You will have:

- Reviewed the material from the last lesson.
- Any questions about Lesson 4?





Duty of Care

Objectives: This section explains the concept of duty of care as a commercial vehicle driver and the responsibilities in the workplace.

Time: 60 minutes

Slide: 4 Type: Section Break

- ▶ Safety is your most important responsibility. This responsibility is expressed in Canada's National Occupational Standard (NOS) for truck drivers as having a "duty of care" – to proactively protect other road users from harm.

After completing this section, you should be able to proactively protect other road users from harm.

- ▶ You may wish to show one of these videos or a similar video that shows the importance of duty of care and the responsibilities that commercial drivers have to protect others and themselves in their place of work.

<https://globalnews.ca/news/4805183/dashcam-video-shows-driver-challenge-semi-driver-on-manitoba-highway/>

<https://safetydriven.ca/resource/standard-of-care-it-saves-to-be-safe/>



Slide: 5 Type: Presentation

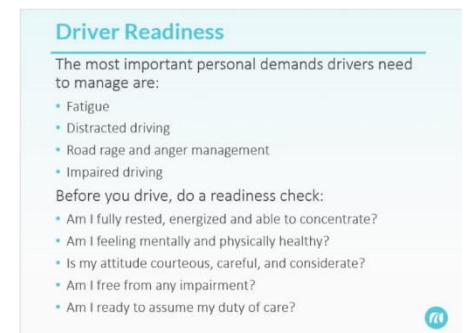
- ▶ Driving a truck can be a stressful, demanding job. Starting the engine without being mentally and physically prepared for the demands is risky for you and everyone else on the road.

- ▶ Four of the most important personal demands of the job that you need to manage are:

- Fatigue
- Distracted driving
- Road rage and anger management
- Impaired driving

- ▶ You may wish to play a video that discusses the impact of these factors on a professional driver's performance. A video on the MELT curriculum website can be shared with the class:

<https://apps.mpi.mb.ca/MELT/videos/Pro%20defensive%20driving.wmv>



Textbook Reference: Section 5 - Driver Readiness.



Slide: 6

Type: Presentation

- ▶ Driving while fatigued can make you a hazard on the road. Drowsy driving is as dangerous as impaired driving because it slows your reaction time, decreases awareness, and can impair judgment.

Lack of sleep is the most common cause of drowsy driving. Other contributing factors include irregular schedules, driving alone, overnight driving, time changes, driving long distances without rest breaks everyday stresses of the job. Taking medication that increases sleepiness or drinking alcohol also contributes to driver fatigue.

In Canada, under the National Safety Code, you can drive a commercial vehicle up to 13 hours a day, but it is recommended not to drive more than two hours without stopping for a rest.

Fatigue and Driving

Causes of fatigue:

- Lack of sleep
- Irregular schedules
- Driving alone
- Overnight driving
- Time changes
- Driving long distances
- Job stress
- Medications
- Alcohol



Slide: 7

Type: Presentation

- ▶ Watch for these warning signs of driver fatigue and the risk of falling asleep:

- Yawning
- Inability to keep eyes focused and head up
- Wandering, disconnected thoughts
- Not remembering the past few kilometres of driving
- Drifting between lanes, tailgating, or missing traffic signs
- Noticing vehicles that seem to appear out of nowhere

If you're starting to fall asleep at the wheel, stop driving and get some rest. Be honest with yourself, and give yourself a break when you need it.

Fatigue and Driving

Warning signs of driver fatigue:

- Yawning
- Inability to keep eyes focused and head up
- Wandering, disconnected thoughts
- Not remembering the past few kilometres of driving
- Drifting between lanes
- Tailgating
- Missing traffic signs
- Noticing a vehicle that seems to appear out of nowhere



Slide: 8

Type: Presentation

- ▶ Fatigue slows reaction times, decreases awareness, and can impair judgment. In worst-case scenarios, it causes drivers to fall asleep at the wheel.

Microsleeps are a temporary episode of sleep, drowsiness, or unconsciousness lasting 1 to 30 seconds. Sleep deprivation or long, monotonous tasks can cause microsleeps. Droopy or slowly closing eyes and head-nodding are signs of a microsleep. People are often unaware of them, or treat them as a temporary loss of focus, as opposed to actually falling asleep.

Fatigue and Driving

Microsleep:

- Is a temporary episode of sleep, drowsiness or unconsciousness
- Can last from 1 to 30 seconds
- Is extremely dangerous when driving



The following Fatigue Management poster may be handed out to students and is provided by the Trucking Safety Council of BC: <https://safetydriven.ca/resource/fatigue-management-infographic/>



Slide: 9


Type: Presentation

- ▶ If you're starting to fall asleep at the wheel, stop driving immediately (pull over) and get some rest. Be honest with yourself, and give yourself a break when you need it. Better yet, take steps to manage your fatigue and avoid microsleeps altogether:
 - Get plenty of sleep the night before a long trip, or if that's not possible, get plenty of sleep the previous night.
 - Avoid working all day and then driving all night. Stop overnight rather than driving straight through.
 - Schedule regular breaks, consistent with company policy and Hours of Service regulations (we'll cover Hours of Service in Lesson 8). And don't just sit during your break - stretch or take a walk to get some fresh air.
 - Travel with an awake and alert passenger. Having someone to chat with helps to keep you alert, and the passenger can watch you for signs of fatigue.
 - Manage stress levels.

Fatigue and Driving

Manage fatigue and avoid microsleeps by:

- Getting plenty of sleep before a long trip
- Avoiding working all day and then driving all night
- Scheduling regular breaks
- Travelling with an awake and alert passenger
- Manage stress levels

 The best way to fight fatigue is to stop driving immediately (pull over) and get some rest!

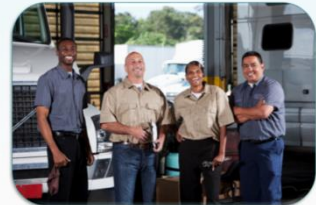


Slide: 10

Type: Presentation

- ▶ You may choose to show the video Fatigue, Alertness, & Driver Fitness at this point. The following video is located on the MELT curriculum site and can be used in the classroom:
<https://apps.mpi.mb.ca/MELT/videos/Fatigue.wmv>
- ▶ An additional video that provides valuable information can be found here:
<https://fatiguescience.wistia.com/medias/d8vur5qfru>

Fatigue, Alertness, & Driver Fitness Video



Slide: 11

Type: Discussion

- ❓ What causes fatigue?
- ▶ Ask students for possible answers, then click to reveal. Ask students to share their own experiences with driving while tired.
- ▶ Allow 5 minutes for discussion.


Review

What causes fatigue?

Answer:

- Lack of sleep
- Driving alone
- Overnight driving
- Time changes
- Driving long distances
- Job stress
- Medication
- Alcohol



 A presentation done for the Trucking Safety Council of BC is available to watch online. This video discusses the challenges faced with being a professional truck driver.
<https://www.safetydriven.ca/resource/ill-sleep-when-im-dead>



Slide: 12

Type: Presentation

- ▶ Avoiding distractions has always been a challenge for drivers, but today's busier, faster-paced, wired and connected world places demands on a driver's attention more than ever.

There are three kinds of driver distractions: visual, manual and cognitive.

At all levels of driver training, you learn that when you're behind the wheel, you need to focus on driving. It's easier said than done sometimes, but being distracted is a choice, and something you can take steps to manage. Recognize triggers or temptations that cause you to be distracted, and then set boundaries, practice techniques, and create habits to help you manage the triggers and temptations.

Distracted Driving

There are three kinds of driver distractions:

- Visual – taking your eyes off the road
- Manual – taking your hands off the steering wheel
- Cognitive – taking your mind off driving



i Textbook Reference: Section 5 - Driver Readiness – Distracted Driving.

Slide: 13

Type: Presentation

- ▶ Distracted driving applies to all vehicles. Distractions can include:

Using cell phones, reading, writing, printing, grooming, or using other electronic devices.


In Manitoba, it is illegal to use a hand-held electronic device while driving. This includes everything from smartphones and iPods to tablets.

Commercial drivers are permitted to use two-way radios or hand-held radios (Citizen's Band radios) to contact their employer, and in emergency management situations. GPS navigation units can be displayed, but the unit must be affixed to the vehicle and programmed before you begin driving, or the system must be voice-activated.


Distracted Driving

Distracted driving applies to all vehicles. Distractions can include:

- Using cellular phones
- Reading printed materials
- Writing, printing or sketching
- Personal grooming
- Using electronic devices such as laptop computers, cameras and portable audio players (e.g., MP3 players)

 Does not apply to 2-way radios, handheld radios and affixed or voice-activated GPS units, when used according to regulations.



 Hand out **Focus on the Road** - the distracted driving pamphlet for students. They will use this pamphlet for completing the exercise book.

i Focus on the Road Impaired Driving pamphlet can be found here:

<https://www.mpi.mb.ca/Documents/Distracted-Driving.pdf>

- ▶ Have a class discussion on what else would constitute as a distraction.



Slide: 14

Type: Presentation

- ▶ Distracted Driving or texting and driving is the most commonly term used. However under the law in Manitoba (HTA), it is referred to as “Using hand-operated electronic device while driving.” Other jurisdictions have similar laws as well.

Drivers caught violating this law in Manitoba receive:

- ▶ Three-day licence suspension for a first offence
- ▶ Seven-day suspension for subsequent offences
- ▶ Upon conviction, they also receive:
- ▶ \$672 fine
- ▶ Move down five levels on the Driver Safety Scale, which can result in an increase to insurance premiums, and an increase to the cost of your drivers licence

In serious cases, or when other distractions cause you to violate traffic laws or end up in a collision, you could be charged with a number of offences, including careless driving, dangerous driving or criminal negligence. These can result in more severe penalties (including jail time) and other driving interventions.

Distracted Driving - Penalties

Using hand-operated electronic device while driving any vehicle results in:

- a three-day driver licence suspension (first offence)
- A seven-day licence suspension (subsequent offences)
- a \$672 fine
- 5 demerits



Slide: 15

Type: Presentation

- ▶ Sharing the road creates situations that cause stress or frustration, possibly leading to anger or even road rage – an extreme form of aggressive driving or violent behaviour.

Road rage has several expressions:

- Excessive honking at another driver
- Verbal abuse or threats
- Aggressive or vengeful driving manoeuvres
- Physical confrontations

There are many preventative actions you can take to avoid frustration and anger on the road:

- Plan your route in advance.
- Make a conscious decision not to take your problems with you when driving.
- Reduce stress by taking breaks, getting fresh air, and breathing deeply and slowly.
- Don't compete, retaliate, or try to “educate” drivers. Leave traffic enforcement to the police.
- Don't take other drivers' mistakes personally.
- Avoid using your horn unless absolutely necessary. If you must use your horn, use a light touch.

Road Rage and Anger Management

Road rage has several expressions:

- Excessive honking at another driver
- Verbal abuse or threats
- Aggressive or vengeful driving manoeuvres

Preventative actions include:

- Driving courteously
- Planning your route in advance
- Not taking other drivers' mistakes personally





- ▶ You may choose to share the following video or a similar video with students in the classroom to engage in further discussion about road rage and anger management.

<https://apps.mpi.mb.ca/MELT/videos/Road%20rage.wmv>

Textbook Reference: Section 5 - Driver Readiness – Road Rage and Anger Management.

Slide: 16

Type: Presentation

- ◀ Impaired drivers are one of the most dangerous risks on the road. They cause about one-third of all traffic deaths in Manitoba. Whether the drug is alcohol, cannabis, prescription medicine, or an illegal substance, having any drug in your system when you're behind the wheel is a risk. The safest level of impairment is zero impairment. Professional drivers manage their social and personal lives so that there is no risk of being impaired when driving.

Impaired Driving

Impairment can be caused by:

- Alcohol
- Cannabis
- Prescription medicine
- Illegal substances

Impaired drivers are one of the most dangerous risks on the road

- Causing about one third of all traffic deaths in Manitoba



Textbook Reference: Section 5 - Driver Readiness – Impaired Driving.

Slide: 17

Type: Presentation

- ◀ Alcohol is a depressant and consumption may trigger mood and behaviour changes.

BAC refers to the amount of alcohol present in the bloodstream.

If two people sit down and consume the same amount of alcohol in the same timeframe, one may get up and walk away seemingly unimpaired. The other may get up and stumble back down. This is because each person is different and their body type, weight, gender, and age affect how their body absorbs alcohol.

For the purpose of our discussions we will assume each drink consumed is roughly equal to 0.02% BAC.

Impairment is different than BAC

Blood Alcohol Content (BAC) begins with the first drink.

Impairment can be influenced by:

- Rate of consumption
- Age
- Gender
- Body weight and type
- Food consumption
- Medication and drugs
- Environment and mood
- Fatigue and stress

 Only Time can eliminate alcohol from the body!



- ▶ Go over the Impaired Driving section in the **Textbook** (Section 5), where there is a table from the Canadian Centre on Substance Use that demonstrates how BAC changes for a typical person.

- ◀ Only time can eliminate alcohol from the body (through your liver, breath, and sweat). You cannot successfully sleep off a night of heavy drinking in a few hours. The table from the Canadian Centre on Substance Use demonstrates how BAC changes for a typical person. For example, if you go to bed at midnight with a BAC of .25%, and alcohol leaves the system at a rate of approximately 0.015% per hour, you will not be at zero BAC until 5 p.m.



Slide: 18

Type: Presentation

- Alcohol has negative impacts on vision, including eye refocusing, double vision, sharpness of vision, colour distinction, and diminished night vision.

Alcohol slows your ability to process information and respond to critical driving tasks.

Your eye, hand, and foot coordination is impaired by alcohol.

The ability to properly determine safe following distance and reduced distance judgment may be affected.

Effects of Alcohol on Driving

Multiple negative effects on vision:

- Slower eye refocusing/double vision
- Reduced distance judgment
- Reduced peripheral vision
- Reduced visual acuity (sharpness) and colour distinction
- Diminished night vision

Also can have an effect on:

- Slower response times
- Impaired motor skills



Slide: 19

Type: Presentation

- It is important to understand BAC and its impact on driving at various levels. Driving impaired, even at low levels, is a real gamble. The only truly safe BAC is 0%.

Likelihood of a crash: As the concentration of alcohol in the bloodstream increases, the body loses more and more of the functions required to drive safely. The increased likelihood of a crash begins long before you feel drunk or severely impaired.

Likelihood of a Crash

The risk of a crash increases with the more alcohol you have in your system:



Slide: 20

Type: Presentation

- The consequences for impaired driving can be severe, and include:
 - Temporary or permanent licence suspensions
 - Demerits against your Driver Safety Rating
 - Requirement to complete educational/treatment programs
 - A criminal record
 - Fines or imprisonment

Provide a copy of the Professional Driver's Handbook

- Review full details on impaired driving penalties found in the Professional Driver's Handbook.

Consequences of Impaired Driving

The consequences for impaired driving can be severe, and include:

- Temporary or permanent licence suspensions
- Demerits against your Driver Safety Rating
- Requirement to complete educational/treatment programs
- A criminal record
- Fines or imprisonment



Professional Driver's Handbook can be found here:
<https://www.mpi.mb.ca/documents/profdriverhbookcomp.pdf>



Slide: 21

Type: Presentation

- ▶ Tranquilizers, anti-depressants, sleeping pills, and similar prescription drugs can affect driving ability even if taken in the prescribed dosage. Driving impaired by medication has the same consequences as driving impaired by alcohol. Discuss the possible effects of any medication with your doctor or pharmacist. Always carry prescription drugs in their original containers.

Other drugs may cause several problems for driving:

- Hallucinations
- Hostility, aggressiveness, and mood changes
- Slower thought processes and impaired eye-hand coordination
- Vision problems – less ability to track or judge distance
- Poor judgment or loss of focus
- If the drugs are illegal, you may also end up with legal problems to deal with.

Drugs

Drugs can affect driving ability, and can cause:

- Hallucinations
- Hostility, aggressiveness, and mood changes
- Slower thought processes and impaired eye-hand coordination
- Vision problems – less ability to track or judge distance
- Poor judgment or loss of focus

⚠ If the drugs are illegal, you may also end up with legal problems to deal with as well.



Slide: 22

Type: Discussion

- ? What does BAC stand for?
 - ▶ Ask students for possible answers, then click to reveal.
- ? What lowers BAC levels?
 - ▶ Ask students for possible answers, then click to reveal.
- ? At what rate does alcohol leave the body?
 - ▶ Ask students for possible answers, then click to reveal.

Review

What does BAC stand for?

Answer: Blood Alcohol Content

What lowers BAC levels?

Answer: Time

At what rate does alcohol leave the body?

Answer: 0.015% per hour



Slide: 23

Type: Exercise

- ▶ You will have 20 minutes to complete Exercise 1 in the Exercise Book.
- ▶ If time permits, you should review the questions after the students have completed the exercise. Alternatively, you may provide a copy of the **Lesson 5 - Exercise Book Answer Key** at the end of the lesson for them to review on their own time.

📄 Hand out **Lesson 5 – Exercise Book**

Exercises 1: Driver Readiness

- Complete Exercise 1
- Time: 20 minutes





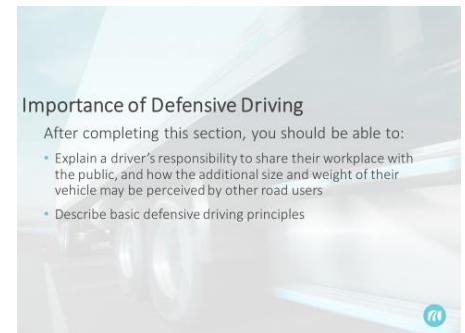
Defensive Driving

Objectives: In this section students learn about the principles and techniques of defensive driving.

Time: 120 minutes

Slide: 24 Type: Section Break

- ▶ After completing this section, you should be able to:
 - Explain a driver's responsibility to share their workplace with the public, and how the additional size and weight of their vehicle may be perceived by other road users.
 - Describe basic defensive driving principles.



Slide: 25 Type: Discussion

- ? What is the most influential factor in preventing a collision?
 - ▶ Ask students for some possible answers, then click to reveal answer.
- ▶ You may wish to play a video like this one provided by the Trucking Safety Council of BC. Play the video for the students and then have a discussion about the importance of defensive driving and keeping their workplace safe.
<https://www.safetydriven.ca/resource/be-truck-aware-dashcam-video/>



Slide: 26 Type: Presentation

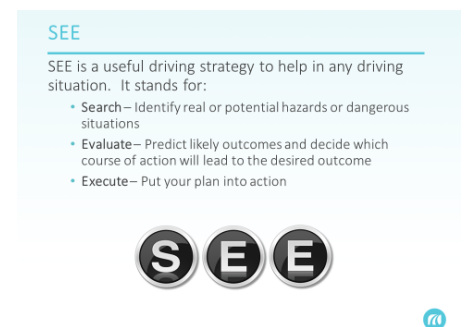
- ▶ One of the most important aspects of defensive driving is recognizing potential hazards before they become a real hazard.

Early recognition allows the time you need to avoid trouble. It is important that you recognize and become immediately aware of what you see while driving.

There are other useful driving strategies such as defensive driving and SIPDE (Scan, Identify, Predict, Decide, Execute).

The name may be different for each strategy, but the concepts are all basically the same:

- ▶ Gather information by being attentive to your driving and your surroundings.
- ▶ Make the best decision based on the information.





- ▶ Execute the decision safely, using your hands-on driving skills.
- ▶ For all driving manoeuvres in this course, learn to SEE them. You can SEE better by:
- ▶ Practicing the commentary driving technique
- ▶ Developing good visual habits and using all your senses
- ▶ Being aware of driving conditions
- ▶ Learning how to share the road

Textbook Reference: Section 5 - Now SEE Here – a Fundamental Driving Strategy.

Slide: 27 **Type: Presentation**

- ▶ You can SEE better by practicing the commentary driving technique.

Commentary driving is a technique for detecting and managing driving hazards, where the driver verbalizes out loud their observations and interpretations of events developing around and ahead of their vehicle.

Commentary driving works because:

- It creates awareness of all the things you should be watching for and thinking about.
- It helps improve your visual skills.
- It helps you resist common distractions.
- If practiced with an instructor, it helps the instructor evaluate your driving habits and progress.

Commentary Driving

Commentary driving is a technique for detecting and managing driving hazards, where the driver verbalizes out loud their observations and interpretations of events developing around and ahead of their vehicle.

- It creates awareness of all the things you should be watching for and thinking about.
- It helps improve your visual skills.
- It helps you resist common distractions.
- If practiced with an instructor, it helps the instructor evaluate your driving habits and progress.



Textbook Reference: This technique is used as part of their in-cab evaluation.

- ▶ Refer students to the example in the **Textbook** under the caption “How to SEE Better” in Section 5. Review this example and allow for discussion.

Slide: 28 **Type: Presentation**

- ▶ Another useful driving strategy is the concept of gates.

Gates serve as an escape option if you need to avoid a hazard or collision.

An open gate is an open space you can move your vehicle into without interfering with traffic. A closed gate is a space occupied by another vehicle that you cannot move into without interfering unsafely with that vehicle.

Visual Search Techniques

Concept of Gates

- Helps you manage space around the vehicle when driving
- An open gate is an open space to move the vehicle into without interfering with traffic
- A closed gate is one where another vehicle occupies the space you are trying to move into

Defensive Drivers

- Adjust their speed and positioning to give them two open gates at all times





Defensive drivers try to keep at least 2 gates open. This can be difficult because you have no control over vehicles around you. The only gate you have control over is the one in front of your vehicle. If you are not able to keep 2 gates open because of heavy traffic or road limitations/restrictions, increase your following distance to offer more space and time to utilize visual search patterns and SEE.

You should check your mirrors every 10-15 seconds to help you know what is going on all around you.

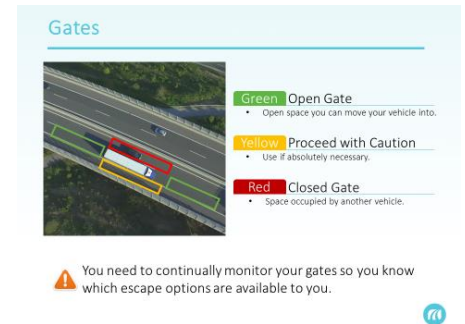
Slide: 29 **Type: Presentation**

- ▶ In the picture, the green gates are considered “open” as the truck has enough space to adjust its speed and use the open gate as an escape option.

The red gate is considered “closed” because of the vehicle traveling alongside the truck.

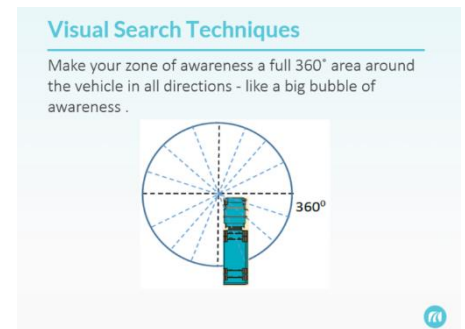
The yellow gate could be used if absolutely needed but you wouldn’t choose that as your first option.

As drivers, you need to continually monitor your gates so you know which escape options are available to you.



Slide: 30 **Type: Presentation**

- ▶ You can SEE better by knowing that hazards can come from any direction: ahead, behind, left, right, above or below. Make your zone of awareness a full 360° area around the vehicle in all directions - like a big bubble of awareness.



Slide: 31 **Type: Presentation**

- ▶ You can practice visual search techniques to learn to see everything in the bubble – and to make the bubble bigger. The earlier you detect a potential hazard, the more time you have to deal with it.

Here are visual search techniques to practice and use regularly:

- Fill the Gap – Look as far as you can down your lane, then drop your eyes to a reference point 12 seconds ahead of your vehicle, within your driving lane. Then fill in the space between your reference point and the front of your vehicle. Note any potential hazards on the road surface, traffic signs, or other things you may need to respond to.
- Sweep – Move your eyes as far left and right as you can, identifying potential hazards.





- Mirror Check – Check your mirrors every 10-15 seconds to be aware of your surroundings and gates.
- Gauge Check – Monitor your gauges without losing sight of the road. It's best to wait for a stop or a straight, clear stretch of road. If that's not possible, take quick glances until you get the reading, instead of one longer glance.

Slide: 32

Type: Presentation

🔊 In summary, when performing a visual search:

- Check your mirrors every 10 to 15 seconds.
- Check your gates.
- Make note of any vehicles you are following or who are following you.
- Notice what's going on around your vehicle.

The visual search sequence to practice and use regularly:

- Fill the gap
- Sweep
- Mirror Check
- Gauge Check

There will be times where real and potential hazards dictate that you create a different sequence, but learning to use your eyes properly will help you utilize the SEE process effectively and allow more reaction time.

Visual Search Summary

- Check your mirrors every 10 to 15 seconds
- Check your gates
- Note vehicles you are following, or vehicles following you
- SEE what's going on around your vehicle



📌 **Textbook Reference:** Section 5 - SEE with All Your Senses.

Slide: 33

Type: Presentation

🔊 Vision is of course the most important sense you need for driving, but you can use other senses to detect potential hazards:

- Sound – Listen for car horns, train whistles, children playing, etc. Keep music, the radio, and other in-vehicle noises at a reasonable level.
- Touch – Vibrations may tell you there's a vehicle issue, or that road conditions are changing.
- Smell – Odours of rubber, oil, or other engine fluids may indicate vehicle issues (engine, tires). Smoke or other smells coming from the environment may indicate low visibility or other hazards ahead.

Using Other Senses

Vision is the most important sense you need for driving, but you can use other senses to detect potential hazards:

- Sound (horns, train whistles, sirens, children)
 - Keep music and radio at a reasonable level
- Touch (vibrations)
- Smell (rubber, oil, smoke)
 - From engine or tires
 - From environment



- ▶ Refer students to the table under “SEE with All Your Senses” of the textbook in Section 5. Review the examples in the table.



Slide: 34

Type: Discussion

- ? How do you think you can SEE better?
- Ask students to write down how they think they can SEE better. Once they are finished, click to reveal the answers one at a time.
- 🔊 You can SEE better by:
- Practicing the commentary driving technique
 - Developing good visual habits and using all your senses
 - Being aware of driving conditions (mentioned in Lesson 6)
 - Learning how to share the road

Review

How can you SEE better?

Answer:

- Practicing the commentary driving technique
- Develop good visual habits
- Use all your senses
- Be aware of driving conditions
- Learn to share the road



Slide: 35

Type: Discussion

- 🔊 You will have 20 minutes to complete Exercise 2 in the Lesson 5 - Exercise Book.
- If time permits, you should review the questions after the students have completed the exercise. Alternatively, you may provide a copy of the **Lesson 5 - Exercise Book Answer Key** at the end of the lesson for them to review on their own time.

Exercise: 2

- Time: 20 minutes
- Complete Exercise 2: Defensive Driving (SEE)





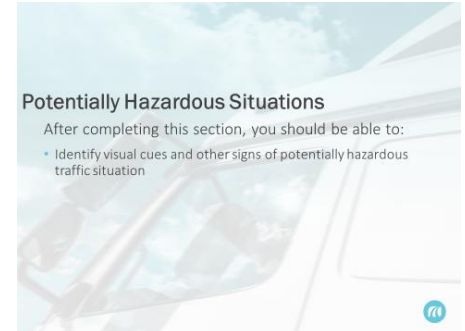
Potentially Hazardous Situations

Objectives: This section introduces the potentially hazardous situations that commercial drivers will encounter on a regular basis.

Time: 10 minutes

Slide: 36 Type: Section Break

- After completing this section, you should be able to identify visual cues and other signs of potentially hazardous traffic situations.



Slide: 37 Type: Presentation

- ◀ Parked vehicles pose these potential hazards:
 - Pedestrians or animals may suddenly emerge from between parked vehicles.
 - A parked vehicle may suddenly pull out into your path without warning.

Watch for these clues:

- Exhaust fumes
- Backing and brake lights turning on
- Front wheels pointing toward traffic
- A person behind the steering wheel

People may open doors of parked vehicles into traffic without looking. Drive at least 1.5 metres out from a parked vehicle to avoid an opening door.

When passing a stalled or stopped vehicle on the highway, treat it the same as passing a moving vehicle. As you approach from behind, look for any sign the vehicle may move (wheels turning, lights, exhaust) or passengers may exit. As a courtesy, move over one lane. If that's not possible, slow down and keep the brake covered.



① Textbook Reference: Section 5 - SEE and Share the Road.



Slide: 38

Type: Presentation

- Motorcycles are easily hidden in your vehicle's blind spots. They can even be difficult to spot in a wide-angle mirror.

Motorcycles can be easily victimized by the "right turn squeeze" when positioned between the curb and a truck turning right.

Pay attention for motorcycles when turning left. They may not be easily visible in heavy traffic or low-light conditions. Their size may also make it difficult to judge their speed.

Sometimes a motorcycle's turn signals can be hard to see. Watch the rider for clues. If the rider does a shoulder check, they may be intending to change lanes or turn.

Motorcycle riders often move within their lane to avoid road hazards like potholes, and to maintain a space cushion from other vehicles.

Cyclists are required to ride close to the right curb, but may need to ride further out to avoid potholes, gravel or sand, ruts, and other surface problems. Be aware of these conditions when you encounter a cyclist. Also:

- When passing a cyclist, change lanes like you would for other vehicles.
- Avoid catching cyclists in a right turn squeeze.
- Before moving away from the curb, check for cyclists riding past your vehicle.
- Avoid following cyclists too closely. They do not have brake lights to warn you of a stop.
- Be alert for children on bicycles, who may lack experience and knowledge of safe cycling.

Motorcycles & Cyclists

Motorcycles

- Easily hidden in your vehicle's blind spots
- Not easily visible
- Turn signals can be hard to see
- Move within their lane to avoid road hazards

Cyclists

- When passing a cyclist, change lanes like you would for other vehicles
- Avoid following cyclists too closely



Slide: 39

Type: Presentation

- Always yield to pedestrians. They have the right-of-way at any marked or unmarked crosswalk.

At crosswalks, stop two to three car-lengths back so that traffic in other lanes can see the pedestrian and has time to stop.

Never pass another vehicle when approaching a crosswalk. There is always a chance that the other vehicle is slowing or stopping for a pedestrian.

Watch for pedestrians emerging from or between parked cars. Cover the brake and be prepared to stop. When turning at an intersection, continually check all around the vehicle, especially the blind spots, for pedestrians. Watch for pedestrians that may be difficult to see because of dark clothing.

Be aware of pedestrians that may take longer to cross, such as someone with a disability.

Watch for children, who may not be very aware around traffic, and who can act unpredictably. Watch for toys or other objects as warning signs that children are near.

Pedestrians

- Always yield to pedestrians
- At crosswalks, stop two to three car-lengths back
- Never pass another vehicle when approaching a crosswalk
- Watch for pedestrians emerging from or between parked cars
- Be aware of pedestrians that may take longer to cross
- Watch for children





Slide: 40

Type: Presentation

- Reduce your speed, look well ahead, and use caution in areas with wildlife warning signs.

Scan the sides of the road and ditches for animals.

Be more careful when animals are most active: at dawn and dusk, and during spring and autumn. During the winter, animals may roam on highways to lick salt off roads.

Animals sometimes move in groups. If you see one animal, there may be more.

At night, watch for sudden, unusual spots of light on or near the road. This may be your headlights reflecting in an animal's eyes.

Sound the horn in a series of short bursts to scare off animals. Flashing lights and sounding the horn may divert a deer from crossing the road.

Moose are particularly dangerous because of their size. Also, flashing lights and sounding the horn won't scare a moose off the road. As well, you may not see a moose's eyes because they are so tall their eyes may be above your headlight beams.

If you encounter an animal, brake firmly and don't swerve to avoid it.

Animals

- Reduce your speed, look well ahead, and use caution in areas with wildlife warning signs
- Scan the sides of the road and ditches for animals
- Be more careful at dawn and dusk, and during spring and autumn
- At night, watch for sudden, unusual spots of light on or near the road
- Sound the horn in a series of short bursts to scare off animals
- If you encounter an animal, brake firmly and don't swerve to avoid it





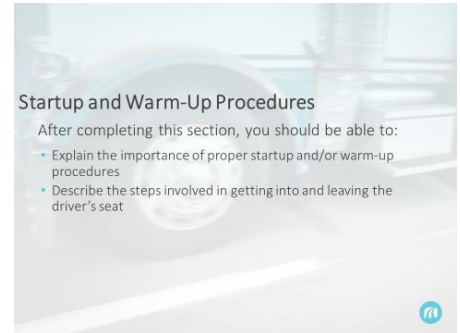
Startup and Warm-Up Procedures

Objectives: This section explains the specific step by step procedures of the startup and warm-up procedures.

Time: 20 minutes

Slide: 41 Type: Section Break

- ▶ After completing this section, you should be able to:
 - Explain the importance of proper startup and/or warm-up procedures.
 - Describe the steps involved in getting into and leaving the driver's seat.



Slide: 42 Type: Presentation

- ▶ Whether you are starting a long haul, or returning to the cab after a short break, as a professional driver, you will follow a methodical set of steps from the time they set foot on the running board to when they shift into gear and pull away. It's like opening your office for business in the morning.
 - Enter the cab safety: Remember the three-point contact approach for safely entering a cab: always keep at least three points of contact with the cab - one or both feet plus one or both hands (Section 4).
 - Adjust your seat before you start the vehicle.
 - Adjust your mirrors: Different vehicles have different mirror configurations. Adjust them to eliminate blind spots and minimize the the area around the tractor-trailer where pedestrians and other objects are at the most immediate risk.
 - Start your engine: With the seat, seat belt, and mirrors all set, you're ready to start the engine.



We will learn more about these in upcoming slides.

Textbook Reference: Section 4 - Vehicle Inspections – The Inspection Process – Entering and Exiting the Cab Safely, and Section 5.



Slide: 43

Type: Presentation

- ▶ When adjusting your seat before you start the vehicle:
 - Sit in a neutral posture to support your spine, with your neck and back in an upright position.
 - Adjust the vertical position first, so that your left foot rests on the floor without pressure on the underside of the leg.
 - Adjust backward/forward so that your right knee bends slightly as your foot rests on the accelerator.
 - When attaching your seat belt, check that it's not loose, damaged, or twisted. It needs to fit snugly across the hips and be centred on your shoulder (never tucked behind your body or under your arm).

Seat Adjustment

- Sit in a neutral posture
- Adjust the vertical position
- Adjust backward/forward
- Fasten seatbelt
 - Check that it's not loose, damaged, or twisted. It needs to fit snugly across the hips and be centred on your shoulder



Slide: 44

Type: Presentation

- ▶ Different vehicles have different mirror configurations. Adjust them to eliminate blind spots and minimize the “danger zone” - the area around the tractor-trailer where pedestrians and other objects are at the most immediate risk. In order to have the best possible view around the truck and trailer, ensure you check and adjust all mirrors each time before setting out on the road .

Some instructors may use the term “no zone” – blind spots and areas where cars are so close that your ability to manoeuvre is limited.

Flat mirrors to the left and right of the windshield are for monitoring traffic and checking side and rear clearances.

There is a blind spot immediately below and behind each mirror, directly in front of the vehicle, and directly behind the rear bumper.

Convex mirrors are located below the outside flat mirrors. They are used to monitor the left and right sides at a wide angle. These mirrors present a view of people and objects that does not accurately reflect their size, distance, and position from the vehicle. Objects will appear smaller and farther away.

Adjust Your Mirrors

Correct mirror adjustment is essential for the safe operation of a commercial vehicle.

- Check and adjust each time to have the best possible view around the truck and trailer
 - Danger Zone: area where pedestrians and objects are most at risk
 - No Zone: blind spots and areas where cars are so close that your ability to manoeuvre is limited
- Flat mirrors are for monitoring traffic and checking side and rear clearances and convex mirrors are used to monitor the left and right sides at a wide angle



There is a blind spot immediately below and behind each mirror, directly in front of the vehicle, and directly behind the rear bumper.



Textbook Reference: Section 5 - Basic Driving Maneuvers – Starting the Vehicle – Adjust Your Mirrors.



Slide: 45

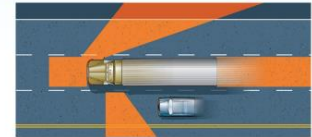
Type: Presentation

- ▶ A tractor-trailer has three large blind spots. One of these blind spots is an area alongside your vehicle that you can't see with your mirrors. It's important to check these blind spots to ensure your side gates are open, particularly if you are going to change lanes. You may need to turn your head or re-position yourself to see better. Blind spots can be problematic even for a regular-sized vehicle. And remember: the bigger the vehicle, the bigger the blind spot!

Blind Spots

The areas around your vehicle you cannot see using your mirrors. Turn your head and re-position yourself to get a better view.

- The bigger the vehicle – The bigger the blind spots
- The smaller the vehicle – the easier it is to lose them in a blind spot



Slide: 46

Type: Presentation

- ▶ Flat mirrors to the left and right of the windshield are for monitoring traffic and checking side and rear clearances. There is a blind spot immediately below and behind each mirror, directly in front of the vehicle, and directly behind the rear bumper. Convex mirrors are located below the outside flat mirrors. They are used to monitor the left and right sides at a wide angle. These mirrors present a view of people and objects that does not accurately reflect their size, distance, and position from the vehicle. Objects will appear smaller and farther away. Position them so you can see:
 - A small portion of the entire side of the vehicle up to the mirror mounts
 - Approximate location of where rear tires touch the ground
 - At least one traffic lane on either side of the vehicle

Adjust Your Mirrors

Flat Mirrors

- Mounted on the left and right at the front of the windshield
- Used to monitor traffic and check clearances on the sides and to the rear of the vehicle

Convex Mirrors

- Located below the outside flat mirrors
- Used to monitor the left and right sides at a wide angle
- Provide a view of traffic and clearances at the side of the vehicle
- Objects will appear smaller and farther away.

Slide: 47

Type: Presentation

- ▶ Set the left mirror so you can see:
 - 60 metres or four vehicle lengths behind the vehicle
 - The top of the vehicle
 - A small portion of the sides of the vehicle
 - The rear tires touching the groundSet the right mirror so you can see:
 - The right side of the vehicle along the left inside edge of the mirror
 - The horizon line three-quarters of the way up the mirror

Adjust Your Mirrors

Set the **left** mirror so you can see:

- 60 metres (four vehicle lengths) behind the vehicle
- The top of the vehicle
- A small portion of the sides of the vehicle
- The rear tires touching the ground

Set the **right** mirror so you can see:

- The right side of the vehicle along the left inside edge of the mirror
- The horizon line three-quarters of the way up the mirror



Slide: 48

Type: Presentation

- With the seat, seatbelt, and mirrors all set, you're ready to start the engine.


If the unit is equipped with glow plugs, wait for the light to go out before starting the engine.

For manual transmissions, ensure that the parking brake is applied, the vehicle is in neutral, and the clutch is depressed. For automatics, check the manufacturer's manual for recommended procedures.

After starting, confirm the oil pressure is good, ensure no warning lights are on, and check that gauges are reading correctly. All gauges must be functioning; otherwise you must not operate the truck. Engine warmup procedures are needed to ensure the engine is properly lubricated and pressurized before driving.

You should follow the manufacturer's manual for specific warm-up procedures for your vehicle, but in general engine warm-up is complete when the temperature has reached anywhere from 170-195 degrees F.

Starting Your Engine

- If the unit is equipped with glow plugs, wait for the light to go out before starting the engine
 - Manual transmission:
 - Ensure parking brake is applied
 - Ensure vehicle is in neutral and the clutch is depressed
 - If the engine does not start, turn the starter off and try again in 60 seconds
 - Ensure no warning lights are on, and gauges are reading correctly
 - Warmup procedures are needed to ensure engine is properly lubricated and pressurized before driving
-  Always follow the manufacturer's manual for proper starting and engine warmup procedures.



Textbook Reference: Section 5 - Basic Driving Manoeuvres – Starting the Vehicle.



Basic Driving Manoeuvres

Objectives: This section introduces the theory involved in basic driving manoeuvres.

Time: 120 minutes

Slide: 49 Type: Section Break

- ▶ After completing this section, you should be able to explain the importance of following all manoeuvring procedures in order to ensure safety.



Slide: 50 Type: Video

- ▶ You may choose to play a play video about intersections, turns, stopping, defensive driving, and merging. The following videos are available on the MELT curriculum website for your use in the classroom:

<https://apps.mpi.mb.ca/MELT/videos/Passing%20following.wmv>

<https://apps.mpi.mb.ca/MELT/videos/Intersections.wmv>

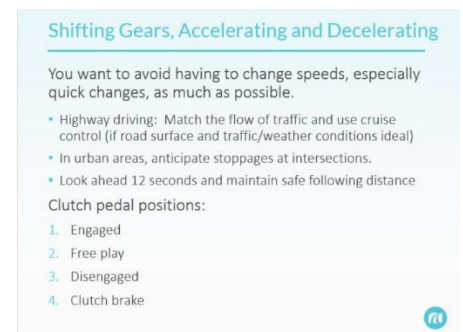


Slide: 51 Type: Presentation

- ▶ In general, you want to avoid having to change speeds, especially quick changes, as much as possible. For highway driving, try to match the flow of traffic and use cruise control where appropriate (ideal road surface and traffic/weather conditions).

In urban areas, anticipate stoppages at intersections. Looking ahead 12 seconds down the road and maintaining a safe following distance gives you the necessary space to slow down, accelerate, or change lanes safely and smoothly.

Your truck's gear lever may have a range control and possibly a splitter. The range control provides a low-range and high-range for each gear. The splitter splits the high-range into "direct" and "overdrive". Your instructor will provide details on how to use the range control and splitter.





It is also important to know the four clutch pedal positions and how each is used.

- Engaged- When the pedal is all the way up (engine/transmission is connected).
- Free play- When the pedal is about 1-1.5 inches from the top position (slack in the linkage).
- Disengaged- When the pedal is about halfway down (engine/transmission is disconnected).
- Clutch brake- When the pedal is pushed all the way to the floor.

The following slides provide detail on shifting with a standard synchronized transmission. Non-synchronized (double clutching) information can be found in the Shifting Gears, Accelerating and Decelerating section of your textbook. Road test applicants can double clutch, clutch, or not use the clutch as long as the shifting is smooth with no excessive grinding without being assessed marks.

- The following video clip can be shown to illustrate the proper use of the clutch pedal in a semi-tractor non-synchronized transmission

<https://www.youtube.com/watch?v=9-KQSxqhQrM>

Textbook Reference: Section 5 - Basic Driving Manoeuvres – Shifting Gears, Accelerating and Decelerating.

Slide: 52 **Type: Presentation**


When upshifting standard transmissions:

1. Familiarize yourself with the gear pattern by checking the chart on the gear shift lever or the dash. Check to determine the starting gear recommended under normal circumstances for your truck.
2. Depress the clutch pedal and shift into the appropriate gear (two and three are interchangeable).
3. Depress the foot brake (two and three are interchangeable).
4. Release the parking brake.
5. Release the clutch to the friction point.
6. Remove your foot from the brake pedal, place it on the accelerator pedal, and accelerate gradually.

Upshifting

Upshifting Standard Synchronized Transmissions

1. Check for the gear pattern
2. Depress the clutch pedal and shift into the appropriate gear
3. Depress the foot brake (same time as 2)
4. Release the parking brake
5. Release the clutch to the friction point
6. Remove foot from the brake pedal, and accelerate gradually





Slide: 53

Type: Presentation

- ▶ Continue with the upshifting procedures from the previous slide.



7. Remove your foot from the clutch slowly and place it completely on the floor while continuing to accelerate. Do not ride the clutch!
8. Accelerate the truck to the proper engine speed before shifting into the next higher gear. With practice, you will learn to feel and hear the proper engine speed for shifting.
9. Depress the clutch pedal and release the accelerator simultaneously.
10. Shift into the next gear.
11. Smoothly release the clutch and continue to accelerate gradually.

Upshifting - Continued

7. Remove your foot from the clutch slowly and place it completely on the floor, while continuing to accelerate.
Do not ride the clutch!
8. Accelerate the tractor-trailer to the proper engine speed before attempting to shift
9. When appropriate to shift gears, depress the clutch pedal and release accelerator at the same time
10. Shift into the next gear
11. Smoothly release the clutch and continue to accelerate gradually



Slide: 54

Type: Presentation

- ▶ The procedure for downshifting is:

- Reduce speed, depress the clutch, and release the accelerator.
- Shift to the next lower gear.
- Release the clutch smoothly and use the accelerator to provide engine power appropriate to the terrain.
- Repeat these steps to continue downshifting as the proper engine speeds are reached.
- To stop completely, apply the brake, gradually increasing pressure, and depress the clutch after reducing speed to between 8-16 km/h.

To avoid damaging the clutch brake, don't coast to a stop (depressing the clutch at too high a speed and then holding it while braking to a stop). Always downshift to a stop.

- ▶ You may wish to share a video on shifting manual transmissions similar to this video by Eaton Fuller Transmission video, <http://videos.eaton.com/detail/videos/manual-transmissions/video/2253044284001/professional-shifting---5-6-speed?autoStart=true>. Keep in mind that this video is done for a particular brand and may not specifically apply to all vehicles.

Downshifting

Downshifting Standard Synchronized Transmissions

1. Reduce speed, depress the clutch, and release the accelerator.
2. Shift to the next lower gear.
3. Release the clutch smoothly and use the accelerator to provide engine power appropriate to the terrain.
4. Repeat these steps to continue downshifting as the proper engine speeds are reached.
5. To stop completely, apply the brake, gradually increasing pressure, and depress the clutch after reducing speed to between 8-16 km/h.

 Don't coast - Always downshift to a stop.





Slide: 55

Type: Presentation

◀ When applying brakes:

- Apply even pressure to the brake pedal.
- Ease off as the vehicle slows down.
- Just before the stop, release the pedal to avoid a sudden jerk or rebound.
- Depress the pedal again to hold the vehicle while it is stopped.
- Continually monitor your brakes.

If there is a low air pressure warning, stop as soon as possible in a safe place, and increase the air pressure before continuing.

You will learn to use both your transmission and engine retarder (or “jake brake”) to slow your vehicle, and apply the brakes only when coming to a complete stop.

Braking

When applying brakes

- Apply even pressure to the brake pedal
- Ease off as the vehicle slows down
- Release the pedal to avoid a sudden jerk or rebound
- Depress the pedal again to hold the vehicle while it is stopped
- Continually monitor your brakes
 - If there is a low air pressure warning, stop as soon as possible in a safe place, and increase the air pressure before continuing.



Textbook Reference: Section 5 - Basic Driving Manoeuvres – Braking.

Slide: 56

Type: Presentation

◀ For braking on downhills:

- Before descending, test the brakes. Look at the air pressure gauge, apply the brakes, and check for abnormal air pressure loss. Do not proceed if there is abnormal pressure loss.
- Use brakes sparingly. Downshift before going over the top of the hill, and use engine compression to control your speed on steep grades.
- Avoid pumping air brakes. Doing so results in a loss of air pressure.
- If the trailer hand valve is used too much, particularly on steep hills, the trailer brakes may fail. Use of the trailer hand valve only is not recommended as it leads to a greater wear on the trailer brakes than the tractor brakes. This causes unbalanced braking between the tractor and the trailer, which could cause the unit to jackknife.

▶ You may wish to play a video that explains braking on downhills:

<https://www.youtube.com/watch?v=AbtUdgbgONk>

Braking

For braking on downhills:

- Before descending, test the brakes.
- Look at the air pressure gauge, apply the brakes, and check for abnormal air pressure loss.
- Use brakes sparingly.
- Downshift before going over the top of the hill, and use engine compression to control your speed on steep grades.
- Avoid pumping air brakes.
- Be aware that if the **trailer hand valve** is used too much, the trailer brakes may fail
 - This unbalanced braking may cause jackknifing.





Slide: 57

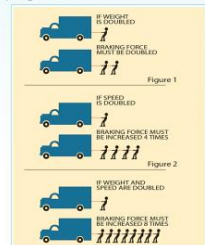
Type: Presentation

- ▶ Stopping time is the sum of four factors:
 - Perception time - time it takes you to realize the need to stop the vehicle. The average perception time is about 0.75 seconds. Perception distance is how far a vehicle travels during perception time.
 - Driver reaction time - time it takes you to apply the brakes after realizing the need to do so. Normal reaction time is about 0.75 seconds. Reaction distance is how far a vehicle travels during driver reaction time.
 - Lag time - time for the brakes to respond after you depressed the brake pedal. It takes about 0.4 seconds for the compressed air to flow through the system and apply the brakes. Lag time distance is how far a vehicle travels during lag time.
 - Braking time - time it takes for the vehicle to come to a complete stop after the brakes are applied.

Stopping Distance

Four factors affect stopping time:

- Perception Time
- Reaction Time
- Lag Time
- Braking Time



Optional handout: You may wish to provide a copy of this poster from Trucking Safety Council of BC related to stopping distance:

<https://safetydriven.ca/resource/be-aware-of-long-stopping-distances/>

Textbook Reference: Section 5 - Basic Driving Manoeuvres – Stopping Time and Stopping Distance.

Slide: 58

Type: Presentation

- ▶ The time it takes for the vehicle to come to a complete stop after the brakes are applied depends on these factors:
 - Braking force - The stronger the force, the quicker the braking.
 - Brake condition - All the brakes must work together. If one or more brakes are not properly aligned or maintained, the remaining brakes will have to generate more friction, and it will take longer to stop the vehicle.
 - Traction - Traction is the friction between the road surface and the tire. Traction depends on several factors: road condition, tire contact with the road surface, tire condition and inflation, and vehicle weight.
 - Weight - A heavy vehicle, even though it has better traction, needs more time and distance to stop. When the weight is doubled, the amount of force needed to stop the vehicle is doubled, and it will take about twice as long for that vehicle to stop.

Braking Time

Time it takes to come to a complete stop after the brakes are applied depends on these factors:

- Braking force
- Brake condition
- Traction
- Weight
- Speed
- Grade/Slope



- Speed - The greater the speed, the more time and distance are needed to stop. For example, doubling the vehicle speed means that four times the braking force is required to bring the vehicle to a stop.
- Grade/Slope - Gravity causes longer stopping distances when going downhill, and shorter stopping distances when going uphill.

Slide: 59

Type: Exercise

- ▶ You will have 20 minutes to complete Exercise 3 in the Lesson 5 - Exercise Book.
- ▶ If time permits, you should review the questions after the students have completed the exercise. Alternatively, you may provide a copy of the **Lesson 5 - Exercise Book Answer Key** at the end of the lesson for them to review on their own time.

Exercise: 3

- Time: 20 minutes
- Complete Exercise 3: Basic Driving Manoeuvres



Slide: 60

Type: Presentation

- ▶ When large vehicles enter a curve, the rear wheels do not follow the same path as the front because they do not pivot. The rear wheels will track closer to the outside of the lane than the front wheels. This is called off-tracking.

There are two types of off-tracking:

- Low speed off-tracking is common when driving in a city. In slower turns, the rear tires are pulled inward of the steering path. The longer the wheelbase of the vehicle or the tighter the turn, the more off-tracking.
- High speed off-tracking is the effect of centrifugal (outward) force. You can see it when a vehicle travels at higher speeds, and the rear tires pull outward from the steering path during a turn.

The greater the distance (wheelbase) between the front wheels and the rear wheels of the vehicle, the greater the amount of off-tracking.

Curves

When large vehicles enter a curve, the rear wheels do not follow the same path. The rear wheels will track closer to the outside of the lane than the front wheels. There are two types of off-tracking:

- Low speed off-tracking is common when driving in a city. In slower turns, the rear tires are pulled inward of the steering path.
- High speed off-tracking is the effect of outward force. You can see it when a vehicle travels at higher speeds, and the rear tires pull outward from the steering path during a turn.



Textbook Reference: Section 5 - Basic Driving Manoeuvres – Curves.

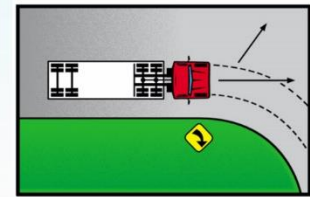


Slide: 61

Type: Presentation

- Accelerate gently through a curve to counter the centrifugal force that could direct you off the highway. Gentle acceleration encourages the wheels to go straight and provides greater control.

Driving Through a Curve



Refer to the chart in Chapter 5 "Curves" section of your textbook.

Slide: 62

Type: Presentation

- Change lanes only when necessary. If you decide to change lanes, plan the change well in advance.

In dense traffic:

- Assess your gaps and gates.
- Check for clearance from both windows and mirrors.
- Check for vehicles approaching quickly from behind that may want to overtake you.
- Signal your intent before beginning the lane change, and give other motorists time to adjust their positions as required.
- After completing the lane change, cancel the turn signal.
- Use the concept of gates to help you manage space around you. Try to avoid having closed gates directly to your left or right. With these gates closed, it's hard to change lanes safely if needed.

Lane Changes

- Plan the change well in advance
- In dense traffic:
 - Assess your gaps and gates
 - Check for clearance from both windows and mirrors.
 - Check for vehicles approaching quickly from behind
- Signal your intent before beginning the lane change
- Give other motorists time to adjust their positions as required
- After completing the lane change, cancel the turn signal

Textbook Reference: Section 5 - Basic Driving Manoeuvres – Lane Changes.

Slide: 63

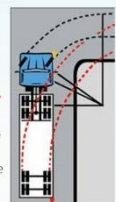
Type: Presentation

- For any kind of turn, left or right, always SEE the turn by following these guidelines:
 - Plan Ahead - Determine what you need to do to make a safe turn.
 - Use Your Turn Signals - Provide appropriate warning, according to driving conditions. As a guide, signal about 30 metres from the intersection (150 metres outside cities, towns, or villages).
 - Stopping before Turning - If you have to stop at an intersection before turning, stop far enough back to give yourself the space you need to make the turn.

Turns

Always SEE the turn by following these guidelines:

- Plan ahead
- Use your turn signals
 - 30 m from intersection (150 m outside city)
- Stopping before turning
- Account for off-tracking
- Manage speed appropriately,
 - braking or hard acceleration in a turn can cause jackknifing
- Use the hand-over-hand steering technique
- Be fully aware of your surroundings
 - Look ahead at least 12 seconds when performing a turn
- Choose the proper lanes





- Account for Off-Tracking (refer to visual) – This is when the rear of the vehicle follows a path different from the front. Off-tracking causes you to need a wide area of roadway to turn safely. You often have to enter adjacent lanes, and risk interfering with vehicles in those lanes, running over curbs, or striking fixed objects off the road surface, such as light or sign posts.
- Manage Speed Appropriately - Reduce your speed and downshift to the proper gear before you start turning, then “power through” the turn at a controlled and safe speed. This is especially important on slippery/uneven surfaces, because braking or hard acceleration in a turn can cause jackknifing (see Section 6).
- Use the Hand-over-hand Steering Technique - As you push the steering wheel up, across, and down with one hand, reach up to the top of the wheel and pull down with the other hand.
- Be Fully Aware of Your Surroundings - Continually watch out and be aware of traffic, signals, signs, and pedestrians in all directions. Look ahead when performing a turn – at least 12 seconds down the intended lane of travel as you turn.
- Choose the Proper Lanes - take extra care to avoid interfering with other traffic.

Textbook Reference: Section 5 - Basic Driving Manoeuvres – Turns.

Slide: 64 **Type: Presentation**

- ▶ Whenever possible, turn from the proper lane. If you have to drive over a lane or centre lines to negotiate sharp turns, take extra care to avoid interfering with other traffic.
- ▶ If an intersection has two turn lanes side-by-side, use the right-most lane for left turns, and the left-most lane for right turns. This gives you a larger turning arc and keeps other vehicles visible in your rear-view mirror.

Choose the Proper Lanes

- Whenever possible, turn from the proper lanes.
- If you have to drive over a lane or centre lines to negotiate sharp turns, take extra care to avoid interfering with other traffic.
- If an intersection has two turn lanes side-by-side, use the right-most lane for left turns, and the left-most lane for right turns.



Slide: 65 **Type: Presentation**

- ▶ There are specific manoeuvres to use for specific turning situations:
- Button Hook: For turning when the only room available to manoeuvre is in the intersection.
- Extended Approach: For turning from a busy street to one with ample room to manoeuvre.
- Lane Straddling: For turning into a street that's very narrow or has limited space. Avoid using this manoeuvre unless no other option is available.

Turning Manoeuvres

There are specific manoeuvres to use for specific turning situations:

- Button Hook: the only room available to manoeuvre is in the intersection
- Extended Approach: turning from a busy street to one with ample room
- Lane Straddling: turning into a street that's very narrow
 - Avoid using this manoeuvre unless no other option is available.



Refer to the chart in Chapter 5 “Turning Manoeuvres” section of your textbook.



Textbook Reference: Section 5 - Basic Driving Manoeuvres – Turning Manoeuvres.



Slide: 66

Type: Presentation

- ▶ In general, try to avoid having to make left turns. But when you have to make a left turn, always:
 - Approach in the lane closest to the centre line or median.
 - Signal left, and continually check mirrors and watch for traffic around you.
 - If you have to yield for vehicles or pedestrians, keep your wheels straight to avoid being pushed into oncoming traffic if you're struck from behind.

Left Turn Manoeuvres

When you have to make a left turn, always:

- Approach in the lane closest to the centre line or median.
- Signal left, and continually check mirrors and watch for traffic around you.
- If you have to yield for vehicles or pedestrians, keep your wheels straight to avoid being pushed into oncoming traffic if you're struck from behind.

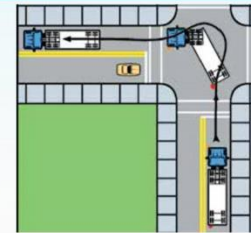


Slide: 67

Type: Presentation

- ▶ With left button hooks:
 - Ensure no traffic is beside you.
 - When the tractor is in the intersection, steer right. Just as the trailer enters the right lane, and when it's safe, steer quickly left.
 - Continue scanning the intersection and watching the trailer to avoid jumping the median curb or colliding with stopped traffic.
 - Be careful at the sharpest point of the turn in relation to the trailer, because left rear view mirror vision will be limited.
 - Steer into the lane closest to the centre line or median and the trailer will follow.

Left Turn – Button hooks



Refer to the chart in Chapter 5 "Left Turn Manoeuvres" section of your textbook.

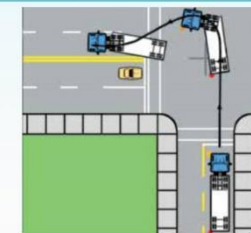


Slide: 68

Type: Presentation

- ▶ With left turn extended approach:
 - Scan the intersection for any potential dangers and take the necessary precautions.
 - Drive straight into the intersection, and start turning when your vehicle is well into the intersection. Check the left mirror and make sure the wheels do not run into traffic or over the median.
 - Continue turning until the vehicle is around the corner and end the turn in the lane closest to the centre line or median.

Left Turn – Extended Approach



Refer to the chart in Chapter 5 "Left Turn Manoeuvres" section of your textbook.

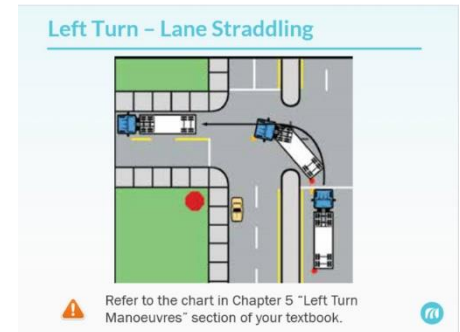




Slide: 69

Type: Presentation

- ▶ With lane straddling left turns:
 - Move into the lane to your right only enough to make the turn safely. Watch the trailer to keep it within 1.5 m of the centre line or median.
 - As you enter the intersection, steer left, watching for potential dangers. Steer to avoid jumping the curb with your tractor wheels. Also watch the trailer to avoid colliding with something or jumping the curb on the median.
 - The critical point is when the tractor is at the sharpest point of the turn in relation to the trailer, because left rear view mirror vision is limited.
 - Steer into the lane closest to the centre line and the trailer will follow. The turn should be completed in this lane.



Slide: 70

Type: Presentation

- ▶ For all right turn manoeuvres:
 - Approach in the curb lane or the lane furthest to the right.
 - Signal right, check mirrors, and continually watch for traffic around you.
 - Watch for anyone (vehicles, bikes, pedestrians) trying to squeeze through on the right side.
 - Look for obstructions in the intended lane of travel, such as parked cars. Treat any obstructions as an extension of the curb.
 - Do not change gears from the start of the turn until the left rear tire of the trailer safely clears the tightest point of the turn.

Right Turn Manoeuvres

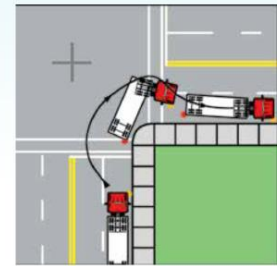
For all right turn manoeuvres:

- Approach in the curb lane or the lane furthest to the right
- Signal right, check mirrors, and continually watch for traffic
- Watch for anyone trying to squeeze through on the right side
- Look for obstructions in the intended lane of travel
- Treat any obstructions as an extension of the curb
- Do not change gears from the start of the turn until the left rear tire of the trailer safely clears the tightest point of the turn

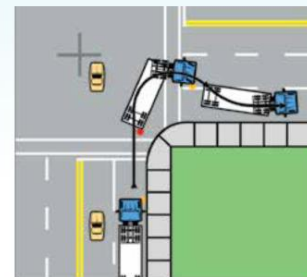


**Slide: 71****Type: Presentation**

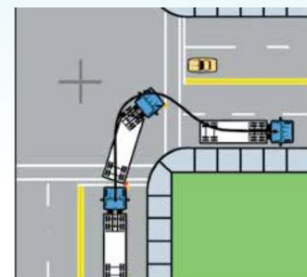
- ▶ With right button hooks:
 - As you approach the intersection, ensure no traffic is beside you.
 - When you are close to the intersection, steer left. Watch the trailer. As it starts to pull away from the curb, steer quickly right.
 - Continue scanning the intersection and watching the trailer to avoid jumping the curb (but stay within 1.5 metres of the curb).
 - Be careful at the sharpest point of the turn in relation to the trailer, because right mirror vision will be limited.
 - Steer into the curb lane and the trailer will follow. Complete the turn in this lane.

Right Turn – Button hooks**Slide: 72****Type: Presentation**

- ▶ With extended approach right turns:
 - Scan the intersection for any potential dangers and take the necessary precautions.
 - Drive straight into the intersection, and start turning when your vehicle is well into the intersection.
 - Use the right mirror to check the trailer position - avoid jumping the curb while staying within 1.5 metres of the curb.
 - Continue turning until the vehicle is around the corner and end the turn in the lane closest to the curb.

Right Turn – Extended Approach**Slide: 73****Type: Presentation**

- ▶ With lane straddling right turns:
 - When safe, move into the lane to your left only enough to make the turn safely.
 - As you enter the intersection, steer right, watching for potential dangers.
 - Use the right mirror to check the trailer position - avoid jumping the curb while staying within 1.5 metres of the curb.
 - Be careful at the sharpest point of the turn in relation to the trailer, because right mirror vision will be limited.
 - Steer into the curb lane and the trailer will follow. Complete the turn in this lane.

Right Turn – Lane Straddling



Slide: 74

Type: Exercise

- ▶ You will have 30 minutes to complete Exercise 4 and 5 in the Lesson 5 - Exercise Book.
- ▶ If time permits, you should review the questions after the students have completed the exercise. Alternatively, you may provide a copy of the Lesson 5 - Exercise Book Answer Key at the end of the lesson for them to review on their own time.

Exercises: 4 and 5

- Time: 30 minutes
- Complete Exercise 4: Curves, Lane Changes & Turns
- Complete Exercise 5: Turning Manoeuvres



Slide: 75

Type: Discussion

- ? Whose responsibility is it to ensure everything regarding the vehicle is in proper working order?
- ▶ Ask students for some possible answers, then click to reveal answer.

Review

Whose responsibility is it to ensure everything regarding the vehicle is in proper working order?

Answer: The driver



Slide: 76

Type: Discussion

- ? To prevent falls or injuries, drivers must maintain _____ point contact when entering or exiting the cab.
- ▶ Ask students for some possible answers, then click to reveal answer.

Review

To prevent falls or injuries, drivers must maintain _____ point contact when entering or exiting the cab.

Answer: 3



Slide: 77

Type: Discussion

- ? Proper mirror adjustments allow for what?
- ▶ Ask students for some possible answers, then click to reveal answer.

Review

Proper mirror adjustments allow for what?

Answer: Better view of 'no zones' and 'danger zones'.





Wrap Up

Time: 5 minutes

Slide: 78 Type: Self-paced Activity

- ▶ When you have time after class, please review the materials and bring any questions you have to the start of next lesson.

? Are there any further questions about basic driving manoeuvres?

▶ Let the students answer.

▶ You may choose to show this video about collision prevention for review:
<https://apps.mpi.mb.ca/MELT/videos/Determining%20preventability.wmv>

Slide: 79 Type: Presentation

- ▶ You should now be able to:
 - Prepare and start to drive a commercial vehicle
 - Comply with operational regulations that apply to commercial vehicles
 - Operate a commercial vehicle in a safe manner
 - Perform basic driving manoeuvres

Summary

You should now be able to:

- Prepare and start to drive a commercial vehicle
- Comply with operational regulations that apply to commercial vehicles
- Operate a commercial vehicle in a safe manner
- Perform basic driving manoeuvres

Knowledge Check

Time: 30 minutes

Slide: 80 Type: Quiz

- ▶ You will have 30 minutes to complete the lesson quiz.

Hand out **Lesson 5 – Quiz**.

Quiz


Lesson 5 Quiz

- 30 minutes to complete





Mid-Term Competency Exam

 Time: 60 minutes


Type: Competency Exam

- Students have a scheduled 1 hour to complete the Mid-Term Exam. This should be done after Lesson 5 and before Lesson 6. The exact timing of this exam will depend on how your time is being organized. A passing grade of the mid-term is required for moving on to more advanced vehicle manoeuvring.

 Hand out **Mid-Term Competency Exam**.



Practical In-Yard/In-Cab Training

 **Time: 1,230 minutes**

Preparation

- Organize students and time in-yard in order to maximize efficiency.
- Print **Lesson 5 – Practical Job Aid** for each student (job aid used for Lesson 6 as well).
- Print **Lesson 4 – Practical Job Aid 4** for each student.
- Print **Lesson 4 – Practical Job Aid 3** for each student.
- Print **Lesson 4 – Practical Job Aid 2** for each student.
- Advise students that the vehicle manual may be used during training.
- Ensure the yard and vehicle is prepared for training.

Slide: 81

Type: Practical Training

- At the end of the classroom session, the instructor and the students will proceed to the yard for the in-yard and in-cab activities. The instructor will have about 30 minutes in-yard first, then 30 minutes in-cab to demonstrate all of these activities to the student, after which the student will perform the activities. The students will have a minimum of 30 minutes to demonstrate their learning in-yard before they go in-cab and on the road. Their in-cab time is a minimum of 19 hours. This time may be split up and used in smaller increments throughout the length of the course. Decisions about how to organize yard time will need to flex with each class based on numbers of students, available instructors for proper yard ratio, and physical training space.

Practical In-Cab Training

Practical Time In-Cab

- 30 minutes in-yard observing
- 30 minutes in-yard demonstrating
- 30 minutes in-cab observing
- 19 hours in-cab demonstrating (in total)




- ◀ The Practical Training and Assessment for Lesson 5 Basic Driving Strategies includes a demonstration of basic driving manoeuvres, starting the vehicle, shifting gears, accelerating, decelerating, braking, curves, lane changing, and turns.

You will now head out to the yard where an instructor will demonstrate these activities and manoeuvres and you will observe. Then you will do the same demonstration for the instructor. You may wish to take your exercise book or textbook with the procedure job aid to refer to while you are observing. Each time you attempt the activities, your instructor will provide you with a copy of your in-yard assessment, which you should review to improve your skills in this area.


? Are there any questions about the practical in-yard training?

- Wait for students to respond.

 Hand out **Lesson 4 - Practical Job Aids** and instruct students to use the job aids before they begin driving and while they are en route during their driving demonstrations. Required inspections must be done.



Practical In-Cab Assessment

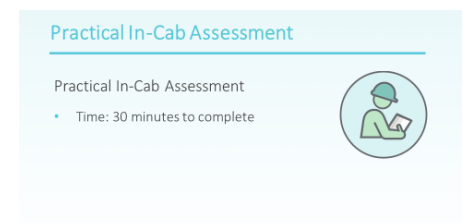
 Time: 30 minutes

Preparation

- Ensure the yard and vehicle are prepared for assessment.
- Print the **Practical Assessment Rubric Evaluator Job Aid** for the evaluator.
- Review **Performing Practical Assessments**.
- Prepare to record assessment performance either on printed **Lesson 5 – Practical Job Aid** sheets or directly into the **Practical Assessments** Excel file.
- Ensure you have access to the **Practical Assessments** Excel file.
- Print **Instructors Class Summary**.
- Print **Instructors Student Summary**.

Slide: 82 Type: Practical Assessment

- ▶ You will now have a practical assessment where your instructor will assess your understanding and skill competency. This final in-cab assessment will count towards your final course mark. Each time you attempt the activities, your instructor will provide you with a copy of your in-cab assessment, which you should review to improve your skills in this area.



? Are there any questions before beginning the practical assessment?

▶ Wait for students to respond.

i You must be familiar with the assessment rubric before evaluating the student's practical knowledge and skills.

▶ The instructor will evaluate students using the practical assessment sheet. The list may then be shared with the student to improve their performance. Use one practical assessment sheet each time the student performs the activities.

A minimum of 30 minutes will be used for the in-cab assessment.

Check the recorded time in the log as well to confirm accuracy and proper completion of required paperwork for Hours of Service compliance.

i Evaluators may record performance on printed sheets but it is required to enter the results into the MELT **Practical Assessments** Excel file for automated scoring. A copy should then be printed and signed.