

CLASS 1 - 4

DRIVER'S BASIC HANDBOOK

INFORMATION SUPPLEMENT

Introduction

The basic knowledge required by all drivers to safely operate a motor vehicle in the Yukon has increased significantly over the past several years. This trend is likely to continue as: Yukon's road surfaces and systems are improved; new traffic control devices are adopted; the basic "rules of the road" and the laws governing drivers' responsibilities evolve; and, pressures continue to increase for more efficient and safer sharing of Yukon roads by motorists, pedestrians, cyclists and all road users.

In view of the changing driving environment, the Yukon Government considered it appropriate to update its basic driver information materials to assist drivers in acquiring the knowledge needed for safe and efficient driving in the Yukon, and elsewhere in Canada. The new *Driver's Basic Handbook* contains invaluable information for new and experienced drivers of all classes of licence. This supplement for class 1- 4 licence applicants provides additional information to assist you in preparing to write your knowledge test exam for a class 1, 2, 3, or 4 licence.

However, you are advised that this supplement does **not** present the full spectrum of information that you need to know to safely and legally practice your profession as a class 1, 2, 3, or 4 driver. To further your safe driving skills and knowledge, *it is highly recommended that you:*

- consider professional driver education. Driving schools in the Yukon would be pleased to provide you with related course content, schedule and fee information;
- obtain and review related driver education materials that may be available from professional driver organizations and/or other Canadian jurisdictions; and
- familiarize yourself with the related laws, regulations and standards applicable to the class of licence you are applying for, including the:
 - Yukon's Motor Vehicles Act, Motor Vehicles Regulations, and Equipment Regulations
 - Yukon's Highways Act, and Highways Regulations
 - Yukon's Motor Transport Act and regulations

Please also note that this supplement is a guide only, and should not be used to interpret a point of law. Official statutes should be consulted for that purpose.

Driver's Basic Handbook

Effort has been made to structure the information in this supplement in a manner deemed consistent with the basic, supplemental learning needs of class 1- 4 driver licence applicants. Throughout this supplement, you will be referred to the *Handbook* for clarification or related information on certain subjects. Therefore, you will want to review this supplement as a companion, rather than replacement, to the *Handbook*.

Beyond the Knowledge Test

Once you have passed the knowledge test, you can begin learning how to drive the class of vehicle for which you are seeking a licence. Your courteous driving attitude and responsible driving practices as a class 1, 2, 3 or 4 learner, and as a fully-licensed professional driver, will help promote the safety of *all* Yukon road users. Remember always that your prime consideration as a professional driver is to maintain the safe operation of any vehicle you are driving.

Best wishes for successful completion of your class 1, 2, 3 or 4 knowledge test, and for many safe, enjoyable years ahead in your chosen driving profession.

TABLE OF CONTENTS

<u>SUBJECT</u>	<u>PAGE</u>
SIGNS	1
MANEUVERING YOUR VEHICLE	1
Turning Radius	2
Off Track	2
Curves and Turns	2
Off track and Curves	3
Negotiating narrow Bridges	3
Turning Right	3
Turning Left	3
Backing Up	4
Shifting Gears	4
STOPPING	5
Danger Zone	5
Following Distance	6
Brake/Braking	6
Brake Test & Vehicle	6
Inspections	
Braking Force	7
Combination-Unit Braking	7
Water on Roadways	7
PASSING AND BEING PASSED	8
Being Passed	8
DEFENSIVE DRIVING	9
OPERATING PUBLIC PASSENGER VEHICLES	10
OPERATING A SCHOOL BUS	11
OPERATING EMERGENCY VEHICLES	12
TOWING TRAILERS	12
SPECIAL CARGO	14
Signage	14
Loading and Handling	14
VEHICLE AND LOAD DIMENSIONS	14
TYPICAL KNOWLEDGE TEST ITEMS	15

➤ **SIGNS:** refer to *Driver's Basic Handbook*, pp. 12-20

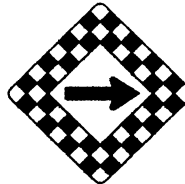
As a class 1, 2, 3, or 4 driver, you are expected to be familiar with basic sign shapes and the meanings of various signs that you may encounter in the course of driving your commercial vehicle. The *Driver's Basic Handbook* contains samples of some of the more common signs you may encounter. Shown below are other signs that you may also see in the course of your work.

Weight Limit Control



Used where it is necessary to limit the weight of vehicles permitted on roads or bridges. The gross vehicle weight of vehicles using the facility must not exceed the value shown, expressed in tonnes

Checkerboard (Serious Hazard)



Color Scheme: Black lines on yellow background

This checkerboard sign indicates an abrupt change of alignment at a turn or curve ahead.

Added Lane



Color Scheme: black lines on yellow background

Two roads converge ahead and merging movements are not required.

Truck Inspection Station



Indicates that it is mandatory for specific classes of vehicles to leave a road to report to an inspection station.

Reserved Lane



Indicates lane is reserved for use by specific vehicles, such as buses, taxis, high occupancy vehicles, and bicycles. The appropriate symbol(s) indicate the vehicle types permitted to use the lane.

Trucks Maximum Speed



Indicates that the maximum legal speed for trucks differs from the maximum legal speed for other vehicles.

➤ **MANEUVERING YOUR VEHICLE**

There are many different types of commercial vehicles and each type has its own driving characteristics. In most cases, commercial drivers operate vehicles that are larger, heavier and longer than those driven by other drivers on the road. The extra size, weight and length affect the way these vehicles move, especially around turns and backing up.

As the operator of a large vehicle, you will need to consider two factors which determine the sharpness of your vehicle's turn: the turning radius of the front wheels and the amount of "off track" of the rear wheels.

Turning radius

How sharply you can turn the front wheels of your vehicle depends on the make and model of the vehicle you are driving. In all cases, the wheel on the inside of the curve (closest to the direction you are turning) will turn more sharply than the wheel on the outside of the turn. The inside wheel will have a shorter turning radius than the outside wheel.

The radius is the distance from the centre of a circle to the edge of the circle. When a vehicle turns a corner, it is travelling on a curve. If that vehicle were to continue on the same path, it would eventually drive in a complete circle. The distance from the centre of that imaginary circle to the vehicle's wheel is the turning radius.

A vehicle's rear tires have a different turning radius than its front tires. It is important to know how to judge the turning radius of your front tires to prevent your vehicle's rear tires from cutting the corner.

Off track

When a vehicle moves around a curve, the rear wheels follow a path that is different from the one created by the front wheels. The difference between the path of the front wheels and the path of the rear wheels is called off track. The greater the distance between the front wheels and the rear wheels of a vehicle (wheelbase), or a combination of vehicles, the greater the amount of off track.

Curves and Turns: refer to *Driver's Basic Handbook*, p. 52

There are forces that work against you when you are moving your vehicle around a curve or through a turn. You need to be aware of these and approach each curve at a speed that allows you to safely control your vehicle.

Momentum is a force that makes your vehicle want to continue to travel in a forward-moving straight line. Because of momentum, you will meet resistance every time you enter a turn. The faster you are travelling and the heavier your vehicle, the greater this resistance will be.

When you enter a curve, centrifugal force acts on your vehicle. This force pushes your vehicle away from the path of the curve.

Traction resists centrifugal force. The amount of traction your wheels have with the road surface determines the amount of control you can maintain over your vehicle.

As you increase your speed, both momentum and centrifugal forces grow stronger. If you enter a curve too quickly, these forces may overwhelm the amount of traction you have and cause you to lose control of your vehicle. If you enter too quickly and try to slow down by applying your brakes in a curve, you may cause your vehicle to skid, roll over or jackknife.

Reduce your speed before you enter a curve. Enter each curve at a speed that does not require you to brake, and does allow you to apply gradual power while you are in the curve to counteract the centrifugal force acting on your vehicle.

Off track and Curves

When you enter a curve to the right, take care to keep the front wheels close to the centre line so that your rear wheels do not drop off the pavement or go onto the pavement shoulder. When you curve to the left, keep the front wheels close to the right edge of the lane to keep your driver's side rear wheels out of the next lane of traffic.

Negotiating narrow bridges

Entering a narrow bridge with a curved approach requires the driver of a large unit to exercise caution and skill. You must be familiar with the amount of off track your vehicle displays and you must use this information to adjust your speed and approach to the curve so that you can enter the bridge safely.

Turning right: refer to *Driver's Basic Handbook*, pp. 37-40

When you are operating a vehicle with a lot of off track and about to turn right at an intersection, be certain you make your turning arc large enough to give your trailer room to follow. If the turning arc of your front wheels is too small, off tracking may cause the back wheels of your trailer to scrape the curb or even leave the road. If the streets are narrow, you will need to move well into the intersection before beginning your turn. You may need to travel over the centre line of the street you are entering. Another option on multi-lane roads may be to move into the lane of traffic on the left of your vehicle. When a street's narrow width forces you to cross the centre line or block an additional traffic lane, use extreme caution and ensure the movement can be made in safety.

Check whether smaller vehicles, motorcycles or cyclists are on the right side of your vehicle whenever you make a right turn. The most dangerous point in a turn is when the tractor has made the turn but the trailer has not. At this point, the right rear view mirror is turned so that it is almost useless. Make your turns from the proper lanes wherever possible. When it is necessary to move your vehicle outside your lane to negotiate a sharp turn, it is your responsibility to be certain you can move safely without holding up traffic.

Turning left

Turning left from a one way street into a one-way street is similar to making a right turn. In both cases, you must ensure your vehicle's turning arc is large enough to keep the rear wheels of your vehicle from running over or scuffing the curb. In this case, the concern is with the left rear wheels. As with right turns, it is important to check for pedestrians and cyclists before initiating your turn.

Backing Up: refer to *Driver's Basic Handbook*, pp. 27-28

Backing up is a maneuver that must always be done with extreme caution. With few exceptions, you will be responsible for any crash that happens when you are backing up. This maneuver becomes dangerous any time you don't make certain the way is clear. You may have to check several times to be sure the way remains clear during the entire maneuver.

Investigation of crashes that involved a backing-up vehicle show that these crashes are usually caused by drivers who did not see something they should have seen.

You can reduce the risk of causing a backing-up crash if you follow these tips:

- Avoid backing up whenever possible.
- If you must back up, plan ahead to minimize the distance.
- Be certain that the area you are backing into is clear.
- Use a person to guide your vehicle whenever possible. If you cannot use a guide, get out of your vehicle and walk completely around it before you start to back up. Repeat this every vehicle length.

Sound your horn at least once every vehicle length to warn other road users that you are about to move.

Back your vehicle out of traffic rather than into traffic.

Do not back your vehicle into the blind side when it is possible to back into the view side. Make your approach in a way that allows you to see the area you are backing into before you put your vehicle into reverse.

Shifting Gears

You are probably familiar with operating automatic transmission vehicles. However, as a commercial driver you may operate vehicles with manual transmissions that have 20 or more gears.

You need the knowledge, instruction and practice to operate large vehicles transmissions smoothly. Before you start out on any trip, you also need to be familiar with the shift pattern and shift points of your vehicle.

There are many different manual transmissions used in commercial vehicles. Get appropriate driver training, consult your vehicle manufacturer's manual, and practice what you learn to acquire the skills and knowledge needed to safely and efficiently operate the gears on the commercial vehicle you will be operating.

Here is some basic information that you will need to know:

Most heavy vehicles with manual transmissions do not have synchromesh gears and so it is essential that you become skilled at double-clutching.

Double-clutching means depressing the clutch pedal twice in the process of moving from one gear to another. Shifting gears by double-clutching requires practice. Using this technique to shift to a higher gear is called upshifting. Upshifting is used when you want to go faster. Shifting to a lower gear by double-clutching is called downshifting. This technique is used as you slow down. Upshifting and downshifting are performed slightly differently.

Shift patterns and characteristics vary depending upon the engine and the transmission. To shift gears smoothly, you must find the transmission's shifting range. A tachometer, which indicates engine speed, can help you decide when to shift. Because there are different methods of shifting, refer to your vehicle manufacturer's guide book to help you decide the shifting method that is best for the vehicle you will be operating.

It is critically important that you downshift before you start down any steep hill. This is especially important if you are driving a loaded vehicle. Use a gear that is not higher than the gear you would use going up the same hill. Keep your vehicle in gear all the way down the hill. If your vehicle is equipped with an engine brake retarder (an engine brake retarder uses your engine to help slow down your vehicle) use it in addition to your brakes to ensure your engine speed stays below the governed r.p.m. (revolutions per minute). Note that an engine brake retarder is more efficient at a higher engine r.p.m., so select the right gear before you start going down a hill - you are more likely to miss a shift if you wait until you are on the downgrade. You may also damage your engine if you allow your vehicle to start moving fast enough to push the engine over its governed speed.

➤ **STOPPING**: refer to *Driver's Basic Handbook*, pp. 24-25.

Danger Zone

The section of road through which a vehicle must travel before it can stop is called the vehicle's danger zone. It is not possible for a vehicle to stop in time to avoid a collision with any object or person that may enter this zone. The length of a danger zone increases:

- with increased vehicle speed;
- when road conditions are less than ideal (e.g. ice, snow, rain or gravel);
- for a heavier vehicle – the heavier the vehicle, the more time it takes to stop;
- if your vehicle brakes are in less than perfect condition.

Your danger zone is reduced when you reduce your vehicle's speed. Any time you see a potential hazard developing (e.g. on approach to an intersection), cover the brake pedal with your foot to enable you to apply the brakes sooner if you need to make an emergency stop. Removing your

foot from the accelerator and putting it lightly on the brake pedal reduces your reaction time and slows your vehicle's speed, giving you a better chance of stopping.

Following Distance: refer to *Driver's Basic Handbook*, pp. 26-27

Under ideal conditions, the recommended minimum following distance for drivers of passenger cars and light trucks is 3-seconds between your vehicle and the vehicle ahead. Drivers of buses, trucks, truck-tractors and semi-trailers should increase their following distance from the vehicle ahead because large vehicles simply need more time and distance to stop. Here's a quick formula for calculating how many seconds you need to stay behind the vehicle you are following:

- (a) Round the length of your vehicle up to the nearest metre
- (b) Divide that number by three.

Example: for a truck-trailer unit that is 14.6 metres, round the number up to 15 metres, and divide by 3 = 5 seconds.

Brake/Braking

Every motor vehicle must be equipped with at least two braking systems: the primary (foot) brakes, and the mechanical (emergency) brake. If the foot brakes fail, the driver must use the emergency brake to stop the vehicle. The emergency brake usually requires more time and distance to stop the vehicle than do functional primary brakes.

Many large vehicles are also equipped with air brakes. Successful completion of a separate air brake examination is required before you can operate a vehicle equipped with air-brakes. You can obtain a copy of the Air Brake Manual from your nearest Motor Vehicles Agent.

Brake Test & Vehicle Inspections

Commercial vehicle drivers have a responsibility to ensure that the vehicles they drive are safe. To do this, you will be expected to know how and when to conduct several types of inspections. Depending on the type of driving you do, you may be required to do these inspections on a regular basis.

All commercial vehicles that fall under the federal National Safety Code (NSC) program must be inspected before they are used each day (pre-trip inspections) and at the end of each day (post-trip inspections). Either you or another person specified by the carrier must do these inspections. Both you (the driver) and the carrier (the employer) share the responsibility to ensure these inspections are done properly.

The pre-trip inspection is designed to help you ensure that your vehicle is safe every time you drive it. Many items, such as side mirrors and turn signals, will be checked in the same manner regardless of the type of vehicle you drive. Others, such as brakes, will require different pre-trip

inspections depending on your vehicle. You will need to learn the pre-trip inspection routine that is appropriate for the type of vehicle you plan to drive.

Braking Force

Heavy vehicles need more braking power to overcome their weight and forward motion. To stop safely, you must ensure that your brakes are properly adjusted, your load is balanced and your tires are in good condition and properly inflated.

Weight and speed affect the braking force required to stop any vehicle. You need more braking force whenever the weight of your vehicle or the speed you are traveling increases. Remember, even unloaded, a large vehicle may travel at least twice as far as a car before it can be stopped.

Combination-Unit Braking

When you step on the foot of a combination vehicle that is equipped with air brakes, the power unit and trailer brakes are applied at the same time and at the same pressure. This is known as balanced braking.

You can apply more pressure to the trailer brakes by using the hand valve at the same time as the foot valve. You can also use the hand valve by itself to apply the trailer brakes independently of the power unit brakes. Trailers equipped with electric or vacuum brakes work in a similar way.

Applying brake pressure too quickly and too forcefully (overbraking) may cause your wheels to lock up which can cause your vehicle to jack-knife or skid. Use extra caution when you apply your brakes on or before a curve, or on wet or icy surfaces. Also, taking your foot off the accelerator and reducing your speed *before* entering a curve will reduce or eliminate the need for any braking while in the curve, thereby reducing the risk of jack-knife or skid.

Remember that the brakes, tires and suspension of a combination vehicle work best when the vehicle is fully loaded. When the cargo area is empty, the vehicle's wheels may bounce and lock up. This can make braking more difficult and may mean you will need a longer distance to stop, especially when going down hills.

Water on Roadways

Water entering the brake drums will reduce their braking efficiency. Avoid driving through large amounts of water whenever possible. If it is necessary to drive through water on the roadway, cover the brake pedal with your foot as you approach the water, and, place a slight drag (i.e. apply a slight constant pressure) on the brakes as you drive through the water. The slight drag placed on the brakes will reduce the amount of water entering the brake drum and shoes. Always reduce your vehicle's speed before driving through large pools of water on the roadway.

During extremely wet conditions, or after driving through water, test your brakes for safe operation. Apply a slight pressure with your foot on the brake pedal, and keep this pressure on for a short distance to dry out the brakes.

➤ **PASSING AND BEING PASSED**

Passing or being passed by a heavy vehicle is a very different experience than passing or being passed by a passenger car.

Large vehicles travelling at high speeds create varying degrees of air turbulence than can be hazardous to smaller vehicles. A car, bicycle, or other road user travelling directly in front of a truck, alongside the cab, by the back area of the trailer or at the immediate rear of the trailer is in an area of air turbulence. Air turbulence is particularly dangerous to cyclists who are much smaller and are likely to be travelling more slowly than large vehicles. Take extra care to be aware of cyclists and give them enough room. The air turbulence from your vehicle can cause them to lose control. The larger your vehicle, the more air turbulence it will create. Be alert for unsuspecting road users who ride in these areas. They may be forced off a narrow roadway or drawn into the side of your vehicle. If a smaller vehicle continues to ride in your area of turbulence, slow down until the vehicle moves and is out of your area of turbulence.

Large vehicles are noisier than passenger vehicles. Their bigger size and louder noise often make other drivers think these vehicles are travelling faster than they actually are. When you overtake or pass passenger vehicles, observe the speed limit carefully and guard against startling inexperienced or nervous drivers.

Other drivers often become frustrated when a commercial vehicle holds them up as it passes another commercial vehicle that is driving at almost the same speed. If “bunching” of commercial vehicles occurs, and particularly if the passing truck is occupying the fast lane (i.e. left lane on a multi-lane road) when it is not absolutely necessary, the traffic behind may be forced to reduce speed. The result may be traffic congestion, which is a hazard on freeways and fast highways.

Being Passed

Do not direct other drivers to pass. If you do so, you may be encouraging them to risk a pass they are not skilled enough to safely complete. However, when other drivers indicate they want to overtake your vehicle, you will need to exercise common sense and your best judgement as to how you can assist a pass to be made in safety.

In some cases, *maintaining your speed* and moving over to the right portion of your travel lane so as to give the other driver a better view of the roadway and conditions ahead is best. This allows the other driver a better opportunity to make a more informed decision as to the timing and safety of the passing maneuver – given a better view of conditions ahead, the other driver may decide the pass cannot be made in safety, and may pull back into the travel lane behind your vehicle to await safer passing conditions. In some other cases, it may be appropriate for you to

slowly reduce your speed while moving over to the right portion of the roadway to give the passing vehicle room to safely maneuver past your vehicle. This would be appropriate if you can see that road and traffic conditions ahead will require the other driver to have more time or distance to safely complete a pass that is already in process.

Maintain your speed, or slowly reduce your speed – your decision will depend on the circumstances of the passing situation. In either case, however, it is very important that you remember that vehicles running alongside each other when passing are occupying space that may be needed for an “emergency out” in the event of an unforeseen, hazardous situation such as a vehicle pulling out of a side road or driveway. Before and during the time that both vehicles are travelling alongside one another, continue to look for and plan alternate “emergency out” routes.

➤ **DEFENSIVE DRIVING**: refer to *Driver’s Basic Handbook*, pp. 68-69

The *Driver’s Basic Handbook* provides a good introduction to many of the fundamentals of defensive driving, and as a professional class 1, 2, 3 or 4 driver, you will want to develop excellent defensive driving technique. You must always remember that a larger, heavier vehicle takes more time and room to stop than other vehicles. You must ensure that you exercise caution at all intersections, even if you have the right-of-way. Watch out for other drivers who may fail to stop at the intersection, and for “late runners” who may try to speed through a “stale” green or yellow light. Maintain a safe following distance. Be extra cautious when driving in poor weather or road conditions. Constantly scan your surroundings, and traffic conditions ahead, behind and to the sides of your vehicle. Be alert, and plan and prepare for almost any unforeseen event, at all times. Be extra careful when driving at night, or when visibility is poor. Always use your seatbelt.

As a professional driver, you are also expected to exhibit a very high standard of driver courtesy and respect for other road users. Remember that you are *sharing* the road – and that your bigger, heavier vehicle can pose sight distance and maneuvering difficulties for other drivers. If another driver exhibits poor driver behavior or courtesy try to remember that the driver may simply be inexperienced or nervous – act appropriately and responsibly. For Example, if a driver of an oncoming vehicle fails to dim the vehicle headlights at night, don’t flash your lights or turn on your highbeams in response. Instead, look down and to the right edge of your driving lane until the vehicle passes you.

Be especially considerate of pedestrians, cyclists, and motorcyclists, who almost certainly will fare very poorly in the event of a collision or mishap involving a large vehicle.

Lastly, try to make sure that any defensive maneuver that you may have to make does not cause a separate, but equally dangerous, situation for you or other road users.

➤ **OPERATING PUBLIC PASSENGER VEHICLES**

There are special rules that apply to the operation of public passenger vehicles. First, your most important concern must always be the safety of your passengers. Ensuring your passengers' safety is always more important than meeting schedules.

You can best protect your passengers by making certain that the vehicle you use is safe and by operating it properly. You can prevent many potential passenger injuries by driving defensively. You also need to fully understand the handling characteristics of your vehicle in order to transport your passengers safely and comfortably.

Learn and practice the proper procedure for taking on and letting off passengers. Maintain your focus on driving – any time your vehicle is moving, you should not collect fares, make change, or take on or let off passengers. Save any unnecessary conversation with your passengers until you have stopped your vehicle.

Ensure that nothing or no one in the vehicle gets in the way of allowing you to do a safe job. You should be able to see clearly ahead, to the right and to the left. You should be able to move your arms and legs at all times and be ready to reach for emergency equipment.

In most cases, passengers must be seated while your vehicle is in motion. You should have no more than two passengers sitting on your right side in a sedan-type vehicle (e.g. taxi), and only if there is enough room for you to operate the vehicle safely.

Here are some other things to know as a public passenger vehicle driver:

- It is your duty to provide transportation to all paying customers in accordance with the terms of the motor carrier's operating certificate. However, you may be able to refuse to transport a passenger under certain conditions, for example, if:
 - your vehicle is already carrying the maximum allowed number of passengers
 - the passenger is:
 - sick or intoxicated
 - boisterous, disorderly or using profane language
 - offensive or dangerous to others or their property.
- Some people with disabilities travel with an assisting animal, such as a guide dog. You must allow these animals in your vehicle with their owners.
- Public passenger vehicles with a seating capacity of more than 12 occupants, including the driver, should:
 - have a light or lights inside the vehicle that light up the passenger aisle behind the driver. These lights should be kept on between the hours of sunset and sunrise so passengers can move safely in the vehicle. There should also be a light at each entrance to the vehicle that turns on when the door is opened;
 - be equipped with:
 - one approved first-aid kit
 - one spare tire

- at least one approved fire extinguisher
- be equipped with an emergency exit door or emergency windows
- Vehicles that have a seating capacity of more than 10 passengers should carry warning devices such as flags and flares.
- You should not refuel your vehicle while the engine is running, the on-board radio is transmitting or when any open flame is present. Keep the nozzle of the fuel hose in contact with the intake to the fuel tank constantly while you fill your fuel tank. Refueling a school bus is also not permitted while there are passengers aboard.
- You should ensure that all baggage passengers bring into your vehicle is loaded safely does not interfere with passengers getting on or off the vehicle, and cannot fall on or against any passenger. Baggage or cargo should not block or partially block any aisle or exit.
- Your vehicle should be clean and sanitary at all times.

You should report any defect or deficiency that could make your vehicle unsafe. This report should be made in writing and be given to the carrier you work for at the time you find the defect, or by the end of that day.

➤ **OPERATING A SCHOOL BUS:** refer to *Driver's Basic Handbook*, pp. 55-57; 77-80

If you intend to drive a school bus, it is important for you to know that there specific laws and safety rules that apply to use and operation of these vehicles, including the following:

The owner or driver of a school bus must:

- at any time, upon the request of an authorized officer, permit the officer to inspect and test the bus to verify that equipment, safety and other applicable standards are being met;
- maintain the interior of the bus in a clean and sanitary condition at all times;
- maintain the exterior of the bus, including windows, windshield, rear view mirrors, lights and all lettering, clean and unbroken at all times;
- not permit more passengers in the bus than the bus manufacturer's stated capacity, without the written permission of the Registrar of Motor Vehicles;
- not refuel, nor permit refueling, while passengers are aboard.

The driver of a school bus must not cause the vehicle to move unless:

- all passengers are seated;
- when unloading, all disembarked passengers are clear of the bus;
- the view of the driver to the front, both sides and rear of the bus is clear;
- the driver has complete control of the driving mechanism; and
- the emergency door and windows are not obstructed.

The driver of a school bus must turn on the alternately flashing lights on the bus a reasonable distance from an anticipated stop where passengers are to be loaded or unloaded, to assist and warn motorists that the bus is stopping.

A driver may not back up on school grounds while passengers are aboard, but may back up when unloaded provided competent guiding is available at the rear of the bus.

No driver shall leave a school bus while there is a passenger aboard.

School buses are required to stop at all railroad crossings even if railroad crossing warning lights are not activated.

School buses should be inspected by a competent mechanic at least once every six months, and the brakes on a school bus should be tested daily.

The care and safe operation of a school bus is a responsibility shared by the bus driver and carrier. Ensure you are completely familiar with all the rules, standards, and guidelines applicable to school bus operations *before* you get behind the wheel of a school bus to transport children.

➤ **OPERATING EMERGENCY VEHICLES**

Ambulance drivers use flashing red lights to warn other drivers when it is essential that they get the right-of-way. These lights are to be used only when the ambulance is responding to an emergency call or transporting a patient.

You may drive an emergency vehicle faster than the posted speed limits and drive through red lights or past stop signs if you give other drivers the appropriate warning. Ambulances are equipped with an audible signal bell, sirens or exhaust whistles and flashing red lights. You must use both lights and the siren to warn other drivers. Use caution at all times because other drivers may not see or hear your warning.

Whenever you exceed the speed limits or drive through stop signals, you must drive with due regard for the nature and use of the vehicle, and all road users' safety. Think about the condition and use of the highway, the amount of traffic that is on or can be expected be on the highway, and the seriousness of the emergency you are responding to.

➤ **TOWING TRAILERS**: refer to *Driver's Basic Handbook*, pp. 96-98

Towing trailers requires more skill and practice than operating a single-unit truck. When you are towing, you must ensure that you steer carefully. A sudden movement could cause your trailer to flip and your tractor may follow. Rollovers are the major cause of death among truck drivers who die as a result of crashes.

A fully loaded vehicle is much more likely to roll over than an empty vehicle. To prevent rollovers, drive slowly around curves and make your turns gradually. Load your cargo correctly. While this is important for any type of vehicle, the higher your vehicle, the longer your trailer or

the more trailers you are towing, the more important correct loading is to prevent vehicle rollover.

Keep your cargo as close to the centre of your rig as possible so it does not cause your trailer to lean. Spread the cargo out over the surface of the trailer, and keep the cargo as close to the ground as possible. As the height of a load increases, the midpoint of the weight (centre of gravity) moves higher – increasing the risk of vehicle rollover.

Whenever you tow a trailer, there is a risk that the trailer will begin to swerve or whip (i.e. move quickly and independently of the tractor, back and forth across the roadway). This is an extremely dangerous situation and must be dealt with immediately. If your trailer whips or swerves, you must slow down and stop as soon as possible to determine the cause. It is critical that you slow down right away and stop as soon as it is safe to do so, to prevent a small problem from quickly turning into a serious hazard.

Whipping and swerving may be caused by:

- driving too fast for the conditions
- sudden steering changes
- improper trailer connections
- shifting loads
- dragging brakes
- a flat tire.

Some type of adjustment will be needed to fix whatever has caused your trailer to whip. As well, even if you believe that the problem was caused by excessive speed and the swerving stops when you slow down, it is still important to stop and check your vehicle and load. The whipping and swerving may have shifted your cargo or loosened a trailer connection.

Almost all class 1 drivers, and many drivers with a different class of licence, need to know how to properly couple and uncouple a trailer from a tractor. It is critical that any trailer you tow be securely fastened to your towing vehicle to prevent trailer whip or swerve, or complete disengagement (uncoupling) of the trailer from your tractor while travelling.

Most coupling is done with a fifth wheel, draw bar or pintle hitch. When a driver is towing more than one trailer, sometimes a tow dolly is used. There are a wide variety of other devices that may also be used to couple and spread the weight of large loads.

Whatever coupling device you use, it must be strong enough to hold the vehicles together and must be fastened to a structurally adequate part of the frame of your vehicle. When you use any coupling device (other than a fifth wheel) you must also use chains or metal cables to connect the towed and towing vehicles. These chains or cables must be equal to the strength of the coupling device.

Always use great care when coupling/uncoupling as a careless job risks your safety, as well as the safety of your load and of others on the road. One of the most important things to keep in

mind is the critical necessity for visually inspecting and trailer-brake testing the secureness of your tractor-trailer coupling connection.

➤ **SPECIAL CARGO**

Signage

Some commercial vehicles are required to display special signage to alert other drivers to the special cargo that is being transported. The *Basic Driver's Handbook* discusses the special placards that must be displayed by vehicles transporting various types of dangerous goods.

School buses used to transport children to and from school, and vehicles carrying explosives, are also required to display additional signage on the outside of the vehicles. When children are being transported to and from school, the bus must display a sign in the front and rear of the vehicle that says "SCHOOL BUS". A vehicle carrying explosives must display a sign (placard) that says "EXPLOSIVES" – there must be one of these signs at the front, rear and on each side of the vehicle.

Loading and Handling

Certain types of cargo, such as drums, bagged products, liquids and livestock, require special handling. Their characteristics will require that you give careful consideration to the way that the cargo is both loaded and transported. Uneven loading, and shifting, swaying or leaning loads, can cause your vehicle to handle poorly or worse, can cause vehicle rollover. Ensure your load is properly secured.

Reduce your speed on curves and sharp turns, and be especially careful on starts and stops.

➤ **VEHICLE AND LOAD DIMENSIONS**

There are legislated limits for commercial vehicle lengths, widths, heights and weights. You must obey all posted signs that limit the dimension or weight of allowable loads, regardless of the licence or permit you carry. These signs are posted along highways to help you avoid damaging your vehicle, its load, the road or other highway users. Temporary additional weight restrictions may be posted at certain times of the year.

You must know the height and width of your vehicle and its load at all times. Large vehicles require cautious handling at all times, but be particularly careful when you are driving an oversize vehicle on narrow bridges and in canyons, gorges and road construction areas. Winter driving conditions can add to the hazards of driving wide vehicles, particularly in mountainous areas. When winter weather affects driving conditions, the first rule of safety is: **reduce speed**.

When driving, you must be aware of your vehicle's length and the length of your load. You need to be particularly cautious while negotiating turns on narrow roads and in alleys. Remember to

leave enough clearance so you can avoid striking objects such as poles, parked cars and buildings. Any location that has limited clearance represents a potential hazard.

Commercial vehicles are licenced according to their gross vehicle weight (GVW). You must know the weight of your vehicle and its load to ensure that your vehicle does not exceed load limits. Commercial vehicles exceeding a GVW of 9,000 kgs must report to weigh scales for the purpose of being weighed, and the vehicle and load measured.

If your load cannot be reduced, or your vehicle is wider, longer or higher than regulations allow, you may be able to purchase a permit to allow you to operate the vehicle on highway. As a condition of an oversize or overload permit, you may be required to use one or more pilot cars to warn other drivers about the larger-than-normal vehicle they are about to encounter. You must also display the appropriate signs on your vehicle when you transport an oversize load.

Detailed information on vehicle loads and dimensions can be obtained from your nearest Weigh Scale, or by calling 667-5929, or toll-free in the Yukon by first dialing 1-800-661-0408.

➤ **TYPICAL KNOWLEDGE TEST ITEMS**

Once you have familiarized yourself with all the various rules, standards and guidelines that may apply to you as a class 1, 2, 3 or 4 driver, you will be ready to take your knowledge test. Successful completion of the knowledge test enables you to begin learning how to operate the class of vehicle for which you are seeking a licence to drive.

Here are some typical knowledge test items, and a few fast facts:

- ❖ The federal National Safety Code (NSC) program sets out the minimum safety standards for commercial vehicles, drivers and carriers operating in Canada. Carriers are responsible for ensuring their drivers and vehicles meet these standards. The Standards apply if you drive a motor vehicle that is used to transport people or freight for any business purpose, subject to certain conditions. If you will be operating a vehicle that falls under the National Safety Code, you will need to learn about Hours of Service restrictions, use and filing of driver Log Books, and many other important driver responsibilities. Make sure you are completely familiar with the (NSC) standards that apply to you, before setting out on a trip. Become familiar with the laws, regulations and standards that apply in other jurisdictions wherever you will be travelling.
- ❖ Certain commercial vehicles are required to be equipped with clearance lights and reflectors. For example, vehicles wider than 203 cm require these lights. The lights on the front of such a vehicle must be amber in color, while those on the rear of the vehicle must be red in color. Clearance lights must be used from sunset to sunrise, and during conditions of poor visibility.
- ❖ All vehicles are required to stop at all controlled railway crossings if signaled to do so. The following vehicles are also required to stop at all uncontrolled railway crossings:
 - school buses, whether or not children are aboard

- buses carrying passengers
 - vehicles transporting explosives as cargo or as part of their cargo
 - vehicles used to transport flammables liquids or gas, whether empty or loaded.
- ❖ For safety, it is also recommended that vehicles transporting poisonous or corrosive substances also stop at uncontrolled railway crossings.
- ❖ You should never change gears when proceeding over a railway crossing.
- ❖ If a load reaches or extends more than 150 cm beyond the rear of your vehicle, you must, during daylight hours, attach a red flag at the end of the extension. At night, you must attach a red light at the end of the extension.
- ❖ A tractor operating on a highway at night must be equipped with lights.
- ❖ Any vehicle presents a hazard when it is parked on the side of a road. Because of their size, large vehicles present more significant hazards. In most instances, drivers are required to put out approved warning devices when they park their commercial vehicles at the side of the road in an area not designated for parking. When a vehicle becomes disabled, park as far off the road as possible, and place warning devices 30 metres ahead and behind the parked vehicle.
- ❖ Many vehicles are required to carry fire extinguishers at all times. These include:
- vehicles transporting explosives – these must have at least two fire extinguishers
 - all school buses – fire extinguishers must meet Canadian Standard Association (CSA) Standard D250
- ❖ The driver of a vehicle is required to carry a registration and insurance certificate in the vehicle at all times.
- ❖ If the rear view from your inside rear view mirror is obstructed by your trailer or van body, you must attach an outside rear view mirror to each side of the vehicle.
- ❖ Driving a vehicle that has tires, wheels or rims that are in poor condition is extremely dangerous, and illegal. Inspect your tire pressure, wheels, and rims before every trip. Tires should be checked for pressure, wear and condition. Remember that when the amount of contact between the tire and the road surface is reduced, steering control is also reduced. Remember also that underinflated tires can be just as dangerous as overinflated tires.
- ❖ Diesel fuel is toxic and should never be touched with your hands or cleaned up with a cloth.
- ❖ If a load cannot be secured by a bulkhead, sideboards and an end-gate or by tie-down straps, a combination of methods may be used. Any time your load is secured by tie-downs, you must compare the weight of your load to the strength of your tie-downs. The total safe

- ❖ working load of all tie-downs must meet or exceed the weight of your load. Shrink wrap is not a load security device.
- ❖ If you are going to work with dangerous goods, you must be certified that you have had the appropriate training. You must carry your training certificate with you when transporting dangerous goods.

