Emergency vehicles

Police cars, ambulances and fire engines are equipped with flashing lights and/or sirens. Yield the right-of-way to vehicles that are using flashing red or blue lights and sirens (or other audible warning signals such as buzzers or horns). You must quickly:

- drive to a position parallel to and as close as possible to the nearest edge or curb of the roadway
- stop your vehicle clear of any intersection
- remain stopped until the emergency vehicle has passed.

Don’t assume that there’s only one emergency vehicle on the road. Listen and look for others. When you resume driving, stay well back from the emergency vehicle(s).

Emergency workers on roads

Slow down and leave plenty of room when passing stopped emergency vehicles displaying flashing red and/or blue or amber lights. These include police cars, fire trucks, ambulances, tow trucks and vehicles used by vehicle inspectors, conservation officers and park rangers.

All traffic must slow down when approaching stopped emergency vehicles displaying flashing lights.

**Exception:** this rule doesn’t apply if you’re on a divided highway and approaching the emergency workers from the opposite direction. If you’re in the lane next to a stopped emergency vehicle — in either direction — change lanes if traffic permits.

Shifting gears

You’re probably familiar with operating automatic transmissions. As a commercial driver you may operate vehicles with manual transmissions that have 10 or more gears. Heavy vehicles are usually powered by diesel engines equipped with engine fuel governors.

You need the knowledge, instruction and practice to operate large vehicle 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, so only general information is given in this guide. Consult your manufacturer’s manual for more information.
Knowing how to shift gears

Most heavy vehicles with manual transmissions don’t have synchromesh gears and so it’s essential that you become skilled at double-clutching.

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. Shifting to a higher gear is called upshifting, and is done when you want to go faster. Shifting to a lower gear is called downshifting, and is done as you slow down. Upshifting and downshifting with double-clutching are performed slightly differently.

To upshift, follow these steps:

1. Release the accelerator pedal. Depress the clutch pedal and shift to neutral at the same time.
2. Release the clutch pedal.
3. Let the engine and gears slow to the r.p.m. needed for the next higher gear.
4. Depress the clutch pedal and shift to a higher gear at the same time.
5. Release the clutch pedal and depress the accelerator at the same time.

To downshift, follow these steps:

1. Release the accelerator pedal. Depress the clutch pedal and shift to neutral at the same time.
2. Release the clutch pedal.
3. Depress the accelerator to increase the engine speed to the r.p.m. needed in the lower gear.
4. Depress the clutch pedal and shift to a lower gear at the same time.
5. Release the clutch pedal while maintaining constant pressure on the accelerator.

Knowing when to shift gears

At any given speed, the engine is developing both torque and horsepower. Torque is the ability of the engine to move the vehicle. Horsepower is used to develop speed. Peak torque is found at a lower engine speed than peak horsepower. The vehicle should be operated between the engine’s peak torque and peak horsepower. This range is referred to as the normal operating r.p.m. range of the engine. To keep within the normal operating r.p.m. range, the transmission should be shifted according to the engine’s peak torque and peak horsepower.

Shift the transmission progressively. To do this, use only enough torque to get the vehicle moving and then shift to the next higher gear.

Sometimes drivers can skip gears to achieve maximum speed more quickly.

To shift gears smoothly, find the transmission’s shifting range. A tachometer, which indicates engine speed, can help you decide when to shift.
Progressive shifting is recommended for many new vehicles with high-torque engines. The r.p.m. you need to shift at becomes higher as you select higher gears. For example, a manufacturer may recommend shifting from first gear to second gear at 1,200 r.p.m. and from fifth gear to sixth gear at 1,350 r.p.m.

Another shifting method is to use a standard r.p.m. split. For example, if the peak engine torque is at 1,500 r.p.m. and the peak horsepower is at 2,000 r.p.m., you can upshift by accelerating to 2,000 r.p.m., then double-clutching to enable the engine speed to decrease to 1,500 r.p.m., and then upshifting. This method may not be cost-effective and may be hard on modern engines. Refer to your vehicle manufacturer’s guide book to decide which shifting method is best for you.

**Shifting skills**

This section will give you details about how to shift the gears of some common engines and how to shift gears on hills and curves. Large vehicles powered by gas or diesel have governors (speed controllers) which regulate the amount of fuel burned and engine r.p.m. Small vehicles don’t have governors. The way you shift depends on whether your vehicle has a governor.

**Shifting gasoline-powered (not governed) engines**

Steps to upshift a vehicle with a gasoline-powered engine:

1. Start in low gear. Use only enough throttle to start the vehicle moving.
2. When the engine begins to accelerate, quickly shift to the next gear. Shift to higher gears as soon as you have the power.
3. As your vehicle’s speed increases and you begin shifting into the higher gears, allow the engine to develop more power before each shift so the rate of acceleration increases.
4. As you complete each shift, engage the clutch smoothly, and engage the throttle at the same time. This allows for a smooth engagement and no shock on drive train components.

**Shifting gasoline- or diesel-powered governed engines**

An engine governor controls the amount of fuel going to the engine and regulates the speed of the engine. A governor lets you start a vehicle on level ground and on grades without using the throttle.

Always squeeze the throttle, rather than stabbing or jabbing at it. This will result in smooth acceleration or deceleration through the gears, just like smooth braking when you squeeze the brake pedal.

Use only enough power to shift the vehicle into the next gear. Depending upon your vehicle’s weight and transmission gear ratios, you may be able to skip gears on down grades or level grades. Your engine’s torque characteristics will let you know when you should shift to the next gear (usually when the engine begins to accelerate quickly). Engage the clutch smoothly when you complete each shift to avoid shocking the drive train, load or passengers.
Multi-speed rear axles and auxiliary transmissions

Many large vehicles have multi-speed rear axles and auxiliary transmission features to provide extra gears. Check your vehicle operator’s manual for more detailed information.

Entering curves

Before you enter a curve, slow to a safe speed and downshift to a gear that lets you use engine power all through the curve. This will keep your vehicle stable and provide good acceleration as you leave the curve.

Passing and being passed

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

Large vehicles travelling at high speeds create air turbulence that can be hazardous to smaller vehicles. The larger your vehicle, the more wind turbulence. 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. For cyclists, the air turbulence from your vehicle can cause them to lose control.

Areas of turbulence.

Be alert for 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 it’s out.
Driving commercial vehicles

**Passing**

Drivers often think big vehicles are travelling faster than they actually are. When you overtake or pass passenger vehicles, observe the speed limit and guard against startling inexperienced or nervous drivers.

Drivers often become frustrated when a commercial vehicle holds them up as it passes another commercial vehicle that’s driving at almost the same speed. If the passing truck occupies the fast lane when it isn’t absolutely necessary, traffic may become congested.

**Being passed**

By directing other drivers to pass, you may be encouraging them to risk a pass they can’t complete safely. But when other drivers indicate they want to overtake your vehicle, help them to pass safely. Reduce your speed and give them room.

**Parking**

It’s important to ensure your vehicle stays in place when parked. To prevent a runaway vehicle:

- Set the parking brake in the tractor.
- Place the transmission in the lowest forward gear, if parked facing uphill, or reverse gear if parked facing downhill, or park if the vehicle has an automatic transmission. If the vehicle has main and auxiliary transmissions, place both in gear. If the vehicle is equipped with a two-speed axle, the axle must be in low range.
- Apply the parking brakes on both the tractor and trailer.
- Most trailers equipped with air brakes also have spring brakes. If your trailer doesn’t have spring brakes, apply the trailer brakes and block the wheels. Over time, the air pressure may bleed down and may cause the trailer brakes to release.
- If you’re parking a single-unit vehicle on an uphill with a curb, turn the wheels to the left towards the centre of the road.
- If you’re parking a single-unit vehicle on an uphill with no curb, turn the wheels to the right towards the edge of the roadway.

**Fast Fact**

Never use a trailer hand valve to hold an unattended unit. Over time the air may drain away and the brakes may release.

**Driving Tip**

You may need to leave the engine idling for three to five minutes to let it cool down after driving on the highway. Idling for any longer wastes fuel, increases emissions, and can clog fuel injectors. For the first hour, the engine will actually stay warmer if it’s turned off.
• If you’re parking a tractor-trailer combination on an uphill with or without a curb, always turn the wheels to the left towards the centre of the road.
• If you’re parking any vehicle on a downgrade, always turn the wheels to the right towards the edge of the roadway.
• Stop the engine. Lock the ignition and remove the ignition key.
• You should block the wheels of any large vehicle parked on even a slight grade.

Crossings

Drivers must be constantly aware of the vehicles ahead, behind and beside them. Pay particular attention to the vehicles, cyclists and pedestrians at the crossings you drive through.

Intersections

Intersections can be confusing and all drivers need to know right-of-way rules (found in Yukon Driver’s Basic Handbook). Don’t depend on other drivers to obey these rules. Follow these commonsensical practices:

The driver of the purple truck must yield the right of way to the red truck and wait until it has proceeded through the intersection before turning.
• Don’t assume you have the right-of-way, even when your right-of-way is controlled by traffic signs or traffic lights.

• When you’re planning to turn, get in the proper lane well before the intersection and signal other drivers to show them you intend to turn. Reduce your speed gradually before entering the intersection. Turn only when it can be done safely, and your path is clear of other traffic and pedestrians.

• Look left and right before entering any intersection. Look for and expect someone to run the sign or lights.

• Enter a limited-view intersection at a speed that allows you to stop if you need to.

• Look ahead for stale green lights. Expect them to change. Decide in advance whether you’ll have to stop to avoid running through the light.

• When the light turns green, check left, right and ahead for any latecomers before you enter the intersection.

• Don’t depend on other drivers for your safety: they may forget to signal; they may signal and not turn; they may turn into a wrong lane; or they may fail to yield.

• Don’t change lanes, pass or overtake other vehicles as you are approaching or going through an intersection.

• Give full attention to each and every intersection, lane and driveway. Keep your vehicle under full control.

• Don’t use the your vehicle’s size to force other road users into giving you the right-of-way. Give the right-of-way; don’t try to take it. Move only when you’re certain other road users have given you the right-of-way.

Alleys, lanes and side roads

If you drive from an alley, lane or side road onto a highway, you must:

• Stop your vehicle before you drive across the sidewalk or sidewalk area.

• Yield the right-of-way to pedestrians in the sidewalk area and to motor vehicles on the highway.
Railway crossings

Large commercial vehicles need more space and more time to respond if a train is in the area. Also note the condition of the track and whether your vehicle will have any difficulty getting across.

Controlled and uncontrolled crossings

All vehicles must stop at controlled railway crossings if signalled to do so. A controlled crossing has a flag person, stop sign, crossing gate or an electric or mechanical signalling device.

When you stop for a railway crossing:

1. Stop five to 15 m from the railway crossing.
2. Look both ways and listen for any approaching trains — opening your driver’s side window or bus passenger loading door will help you hear better.
3. Move forward when safe. Don’t shift gears while crossing.

Don’t park any vehicle within 15 m of the nearest rail of a railway crossing. Don’t ever cross a railway track if a railway crossing gate is down.

Vehicles that are required to stop at all uncontrolled main railway crossings are:

- school buses carrying children
- buses carrying passengers
- vehicles transporting explosive, poisonous or flammable substances as cargo or as part of their cargo
- vehicles used to transport combustibles or corrosive liquids, or liquefied petroleum gas, whether empty or loaded.

Crossing in a large vehicle

Crossing railway tracks can be especially hazardous when you’re driving a large vehicle because:

- Longer trucks need to travel further and will use more time to clear a crossing.
- Heavier trucks take more time and need more room to stop before railway crossings.
- Bigger vehicles can cause a train to derail if there’s a collision.
- Larger vehicles often have low clearances which may cause trailers to hang up or to displace tracks.

Minimize your crossing time — Before you cross a railway line, check that the track is clear far enough to give you at least 10 seconds to cross — more if your vehicle requires it or if you’re crossing more than one track at a time.