



# STOPPING AND PARKING

## TYPES OF BRAKES USED BY DRIVERS

**Hydraulic brakes:** Hydraulic brake systems work by applying force at one point and transmitting it to another Point via an incompressible fluid. A hydraulic braking system is for a vehicle for instant stopping as the force is applied by the driver's foot on the brake pedal. The forces then transmitted to the brakes via the brake fluid. How do you test hydraulic brakes for a leak? When you are stopped pump the pedal three times apply pressure and hold for 5 seconds and see if it moves.

**Full air brakes:** or a compressed air brake system is a type of friction brake for vehicles in which compressed air is pressing on a piston and is used to apply the pressure to the brake pad needed to stop the vehicle. Air brakes are good way to stopping large and heavy vehicles, but the brakes must be well-maintained and more importantly used properly. There are brake requirements, a vehicle's air brake system must meet the FMCSA definition and contain required parts, which will be checked during the vehicle inspection test. You should know the many parts of an air brake system.

**Spring brakes:** All trucks, truck tractors, and buses must be equipped with emergency brakes and parking brakes they must be held on by mechanical force because air pressure can eventually weaken away. Spring brakes are usually used to meet these needs. Powerful Springs are held back by air pressure, when driving. If the air pressure is removed, the Springs put on the brakes. A parking brake control in the cab allows the driver to let the air out of the spring brakes, this lets the springs put the brakes on. A leak in the air brake system, would cause all the air to be lost, it will also cause the springs to put on the brakes. Tractor and straight truck spring brakes 2245 PSI typically 20 to 30 PSI. Do not wait for the brakes to come on automatically. When the low air pressure warning light and buzzer first come on, bring the vehicle to a safe stop right away, while you can still control the brakes. The braking power of spring brakes depends on the brake's adjustment. If the brakes are not adjusted properly neither the regular brakes nor the emergency brakes will work right.

**Parking brakes:** A newer vehicle with air brakes, put on the parking brakes using a diamond shaped, yellow, push pull control knob. You pull the knob out to put the parking brakes and push it into release them. On older vehicles, the parking brakes may be controlled by a lever. Use the parking brakes whenever you park. Caution never pushes the brake pedal down when the spring brakes are on, if you do the brakes could be damaged by the combined forces of the spring and the air pressure.

**Auxiliary brakes/speed retarders:** Auxiliary braking system supplements the service brakes increasing the stopping power and reducing the likelihood that the service brakes will overheat. Auxiliary braking systems all use some method other than mechanical friction to help slow the vehicle. Auxiliary brakes or speed retarders are designed to slow the vehicle. Retarders can cause the drive wheels to skid when they have poor traction. There needs to be operator training on the general use and when to use in Slippery conditions.

**Trailer hand brake:** It's important for people to know that you don't use a trailer hand brake to stop the vehicle. Using a trailer brake will wear trailer brakes and tires down prematurely. Many drivers use the trailer brake lever to check the trailer brakes as part of a pre-trip inspection. It is a dangerous habit to pull the handbrake down in the emergency, through the years there have been many truck drivers that have had his trailer slide sideways with the tires locked up.

The purpose of an **anti-lock braking system** is to help maintain directional stability and control during braking, and possibly reduce stopping distance on some road surfaces. ABS effective in any situation where the driver brakes hard enough to activate the system, where conventional brakes may contribute to direction and stability. It is believed that ABS could reduce commercial vehicle crashes involving jackknife, loss of control, off-road, lane Departure, or skidding these may be caused by brake related directional instability. Vehicles with abs have yellow malfunction lamps to tell you if something is not working. Anti-lock braking systems does not necessarily shorten your stopping distance, but it does help you keep the vehicle under control during hard braking.

## BRAKING RULES

There are breaking rules that should be followed by drivers. Number one break early and gradually. Applying brakes early makes for smoother stops, better control, less wear and tear on the vehicle and cooler breaks. It also makes your actions more predictable.

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Number two break in a straight line. Breaking on Bend is dangerous due to the risk of skidding or overturning and should only be done in an emergency. Number 3 allow enough time to stop based on the size of your load. When your vehicle is fully loaded it requires far more braking effort to slow down or stop so you will have to leave more braking distance. When your vehicle is empty or lightly loaded, braking stability is reduced, and chances of wheel lock up and skids are increased. Be prepared! Number four match you're braking for the road surface. Always adjust your braking technique to suit the road surface allow extra braking distance and break more gently if the road surface is unpaved or slippery. Number 5 ease off as the vehicle slows. Ease off as the vehicle slows because it takes less braking effort to continue slowing at the same rate. If not, the vehicle will come to an abrupt stop and could lock the wheels and slippery conditions. You want a smooth stop. Number six account for wet brakes due to inclement weather. Always test your brakes after going through deep water.

## STOPPING ON THE ROAD

Avoid making stops on the road unless necessary, if it is necessary to do the following: pullover, pullover as far as possible, so that you are completely off the highway if you must stop turn on your hazards immediately. You your safety triangles! You will want to set out your emergency triangles within the first 10 minutes. Ensure the reflective side is facing oncoming traffic. You should place your reflective triangles one 100 ft in front of your vehicle, one about 10 ft of the rear and one about 100 ft of back of the vehicle.

When stopping or slowing a vehicle it is usually best to use the brakes and to down shift only when it becomes necessary to accelerate. Shifting down through the gears as you decelerate is not recommended for these reasons: Should an emergency occur during a downshift the driver may be caught unprepared with foot off the brake and the vehicle out of gear. Repeated brake applications between downshifts waste compressed air and increase wear and tear on the brake system. Downshifts waste fuel and increases clutch, transmission, and engine wear. In residential areas, unnecessary downshifting causes extra noise and pollution.

Example on how to properly place triangles

How to set up emergency triangles

The first thing every driver should do when stopped on the traveled portion or shoulder of a highway, especially when putting out emergency triangles, is turn on their four-way flashers. This ensures that your vehicle is more visible to approaching motorists. Drivers should also always wear reflective gear when putting down and collecting emergency triangles and should carry the triangles so reflective side of the of the warning devices are facing oncoming traffic.

How many reflective triangles should you carry in your truck?

Drivers are required carry three emergency triangles and place them in three locations during a stop.

How far apart should you place reflective triangles?

Emergency triangles must be placed within 10 minutes of stopping and should be kept in the passenger side box so they can be accessed in a way that keeps the driver away from traffic. Triangle placement locations may vary based on the location a driver stops and are spaced out to ensure that other motorists can see a stopped truck from a distance that still allows for a change in lanes or a slowing of speed.

The following are some of the most common emergency triangle placements for truck drivers:

#1 Two Lane (Traffic in both directions and undivided highways)

One triangle 100 ft. in front of the vehicle, centered in the lane the vehicle occupies.

One triangle 10 ft. behind the vehicle on the traffic side of the vehicle.

One triangle 100 ft. behind the vehicle in the center of the lane the vehicle occupies.

#2 Divided highways and one-way roads

When stopping on the shoulder of a one-way road or divided highway, you do not need to worry as much about motorists seeing you from the front, as everyone should be coming from one direction. This means that drivers should be placing all three of their triangles behind their vehicle in the following configuration:

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One triangle 10 ft. behind the vehicle on the traffic side of the vehicle.

One triangle 100 ft. behind the vehicle in the center of the lane the vehicle occupies.

One triangle 200 ft. behind the vehicle in the center of the lane it occupies.

#3 Obstructed view (hills and curves)

Getting stopped on a hill or on the side of a road that curves can be especially dangerous, as oncoming motorists' view is even more obstructed. Due to the increased lack of visibility in these kinds of locations, emergency triangle placement should be a further distance than in other situations.

If stopped on a two-lane road, place one triangle at least 100 ft. ahead of the vehicle.

One triangle should be placed 10 ft. behind the vehicle on the traffic side of the vehicle.

Move the rearmost triangle between 100 ft. and 500 ft. back down the road to provide ample warning (the maximum distance from the vehicle shall not exceed 500 ft.).

## END OF DUTY PROCEDURES

So, what are those ended duty procedures? Number one: refuel the truck and select the safe parking place. Number three: switch off all system and isolate the battery. Number four: air tank should be drained. Number five: tidy up that cab. Number six: perform a walk around check. Number seven: report problems and lock up that truck. Let's take a closer look at those end of day procedures and what should be done for each stage: **Refueling:** the fuel tank should be completely filled. This prevents water condensing and collecting in the bottom of the tanks. Water in the fuel can seriously damage the injection system and a diesel engine. **Safe parking space:** Park in a space that it will not be a danger to other Road users, Park on level ground, Chock Wheels if on a hill, lock the steering wheel and if you are on a roadway, use parking lights. **Switch off systems:** switch off the lights, air conditioner, radio Etc. If the vehicle is fitted with a battery isolation switch and no electrical components need to be left operating, then turn it off. The **walk around check:** check the wheels and tires look for leaks beneath the vehicle check that the wheel chocks are in place make sure the load is secure check to see if you lock the doors are the parking lights and reflectors clean and the parking lights are switched on if necessary. **Report problems and lock up:** complete your log and Report anything unusual that may have happened while you were driving the truck, notify the mechanic or Fleet Maintenance staff and or your supervisor of any problems write problems down and then close all windows and lock cab doors.

## PARKING PROCEDURES

As many of you already know parking or reversing a logging truck, which is an example of a rigid motor vehicle, is going to be different than a chip truck and trailer, which is an example of an articulating vehicle or any vehicle with a trailer. There are two types of vehicles that you may be working with when you are stopping, parking, and backing a vehicle. These are rigid vehicles and articulating vehicles. Depending on the type of vehicle you are driving you will want to turn your steering wheel a certain way when you are backing. With rigid vehicles begin by turning the steering wheel so that the wheel moves in the direction you wish to move the rear of the vehicle. With articulating vehicles, you should begin by turning the bottom of the steering wheel in the direction you want the rear of the vehicle. Some things to think about when you're parking a forestry Transportation vehicle: Check around you first, it is important to check all surroundings before you park especially in those blind spots. This will help you visualize your surroundings along with aiding you in parking safely and efficiently. And as you may already know you may want to try to avoid reversing whenever possible. If reversing is unavoidable, it is best to reverse from the roadway and to your destination, so that you

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can drive forward when re-entering traffic. When parking perform the following: Drive forward into a parallel park leaving the vehicle no more than two feet from the curb. Reverse along both a straight and curved path. Reverse to a parallel park leaving no more than 2 ft from the curb, reverse into a loading area, set the e-brake, and put the transmission into reverse or lowest forward gear, on a downgrade turn wheels toward curb and on an upgrade turn wheels away from curb. When you're shutting down or idling a truck engine you want to consider the following: When the truck is parked with the stop control in the run position it can be accidentally bumped and started if left in gear. Thermal stress, if an engine is abruptly shut down it can be seriously damaged by rapid, uneven cooling called thermal stress. It is best to idle the engine for 2 to 5 minutes before shutting it down. Idling harm, prolong idling, waste Fuel and can harm any engine. An engine should be shut down if it is going to be left standing for more than 10 minutes. When setting up your emergency triangles on a road with vehicles coming from both directions you will want to place your triangles the following way: 100 feet in front of your truck, 10 feet behind your truck and 100 ft from the back of the truck. When placing your emergency triangles on a divided highway with vehicles from coming from One Direction you will want to set them up the following way, and feet behind the truck, 100 ft from the back of the truck and 200 feet from the back of the truck. When it comes to stopping and parking vehicles it puts drivers at a heightened risk when they exit the vehicle especially if they are on the side of the roadway, Highway, a mill or even a loading zone. drivers will want to protect themselves by wearing appropriate personal protective equipment. does the equipment should include a high-visibility vest that is either a Class 2 or 3 and that would be dependent on the speed of traffic or vehicles that are nearby. drivers if they are working and around outside their vehicle, they may also be required to wear a hard hat, leather gloves, chemical resistant gloves. safety boots, safety glasses and hearing protection. Did you know that there are different types of high-visibility safety vest? Well, if you didn't here's your chance to learn about the different types of safety vest out there. There is a Class 1 safety vest class 1 vests are for workers whose jobs Put them at the lowest risk level. These would be jobs in areas where traffic is traveling at or below 25 miles per hour and work is taking place at a safe distance from a roadway. Class 2 safety vest are intended for working environment that pose a greater risk. This can include workers who are on a roadway where traffic is moving under 50 miles per hour. These vests are larger than their class 1 counterparts because they require more high visibility and reflective area to be present. Class 3 safety vest are reserved for people working in the most dangerous environment where visibility is the highest priority. This includes Roadways where traffic is traveling and accessed of 50 miles per hour, but it can also apply to emergency personnel or tow truck operators working in Blizzard or hurricane conditions where visibility is at a minimum.

## PREVENTING STOPPING AND PARKING ACCIDENTS

Stopping and parking accidents can be preventable if any of the following occurred: The driver was passing slower traffic near an intersection and had to make a sudden stop the driver made a sudden stop to park, load, or unload the vehicle was improperly parked, the driver rolled back into the vehicle behind while starting on grade, the driver stopped or parked on or too close to railroad tracks, the driver failed to signal when pulling out from the curb, the driver failed to check traffic before pulling out from a curb, the driver failed to look back to check traffic where mirrors did not show traffic condition and finally the driver attempted to pull out in a manner which forced other vehicles to change speed or Direction. A stopping and parking accident may have not been preventable if any of the following occurred: The driver was properly parked in a location where parking was permitted. The vehicle was protected by emergency warning devices as required by DOT and state regulations or if the driver was in process of setting out or retrieving warning devices.

Name: \_\_\_\_\_

Date: \_\_\_\_\_

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