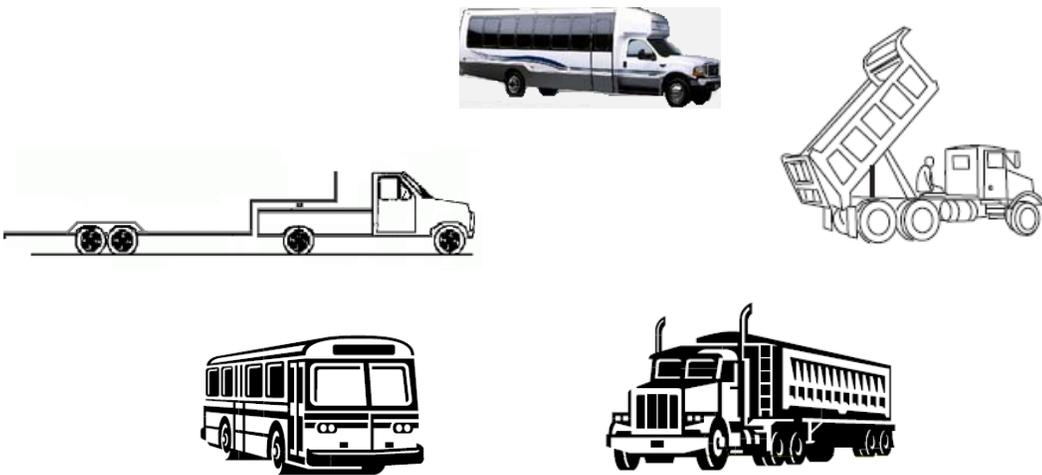


What Every CMV Driver Needs To Know



Purpose

The purpose of this manual is to raise awareness of some of the rules and regulations in operating a commercial motor vehicle (or CMV) as well as the responsibilities of the driver and/or vehicle owner. BEWARE: Rules and regulations change and may vary state by state or even city by city.

On December 12, 2010 a new DOT enforcement initiative called Compliance, Safety, Accountability (CSA) started, which scores drivers based on infractions, accidents, even warnings they have received. This is called a “CSA Score” and this score drops off after three years. The CSA score can affect a driver’s employment opportunities.

Drivers may challenge the data issued by CSA (example: a crash report or ticket shown incorrectly). A driver registers as a General Public User, creates a User Profile and needs to follow the instructions on the site: <https://dataqs.fmcsa.dot.gov/>

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Disclaimer: Information is presented here only for the basis of discussion and for professional drivers for use at their own risk. Rules, regulations and "state-of-art" safety techniques are subject to change and individual situations. All risk and liabilities for the contents herein are assumed by the user.

Introduction

Congratulations. You are now a Commercial Motor Vehicle (CMV) Driver. According to the Department of Labor, 1 in 5 workers are CMV drivers or operate a CMV as part of their job.

What is a CMV driver?

What is a Commercial Motor Vehicle? A simple definition of a CMV is any **vehicle used on a road commercially**.

A pickup or a small truck used in a business may be a CMV, and a tractor-trailer is a CMV, if used in business. The same tractor pulling an RV on a camping trip that is not a business trip or part of a business would not be a CMV (but your state may require a **non-commercial CDL**).

Some states define a CMV as a “qualified registered motor vehicle.”

DOT Definition of a CMV

The U.S. Department of Transportation (DOT) defines a commercial motor vehicle (CMV) in its regulations (49 CFR Part 390.5). The DOT defines a CMV as any self-propelled or towed motor vehicle used on a highway in interstate commerce to transport passengers or property if the vehicle is:

- 1) 10,001 pounds (4,536 kg) or more in its rated weight, gross combination weight rating or its gross weight, whichever is greater; or
- 2) Designed or used to transport more than 8 passengers (including the driver) for compensation; or
- 3) Designed or used to transport more than 15 passengers including the driver and is not transporting passengers for compensation; or
- 4) Used to transport hazardous materials in a quantity requiring placarding.

Examples of CMVs

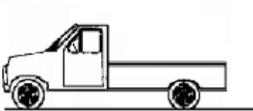


1) Is this a CMV? Yes No

If the vehicle used to transport:

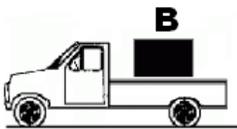
- Property
- Passengers
- Tools and/or supplies used in your trade
- **Any amount** of a hazardous material (gasoline, oxygen, acetylene, propane, paint, solvents, glues, fertilizer, etc.) – then it may be a CMV.

Empty



A

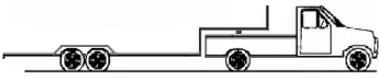
Rated Under 10,001 Pounds GVWR or Actual (Gross) Weight (of A)	Over 10,001 pounds GVWR or Actual (Gross) Weight (of A)	H/M Placards Required
NOT CMV	CMV	NA



A

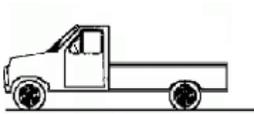
Laden

Rated Under 10,001 Pounds GVWR and/or Actual (Gross) Weight (of A + B)	Over 10,001 pounds GVWR and/or Actual (Gross) Weight	H/M Placards Required
NOT CMV	CMV	CMV

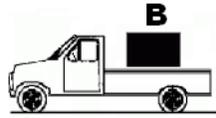


2) Is this a CMV? Yes No

If the combined gross weight **rating** (or **Gross Combination Weight Rating – GCWR**) of both pickup and trailer is 10,001 pounds or more (even if the truck and trailer **are both empty**) – it may be a CMV.

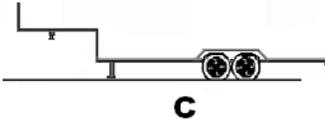


A



A

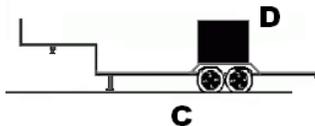
Adding an empty trailer to a pickup:



C

Rated Under 10,001 Pounds GCWR or Actual (Gross) Weight (A+C are less than 10,001 pounds)	Over 10,001 pounds GCWR and/or Actual (Gross) Weight (A or C is RATED over 10,001 pounds)	H/M Placards Required
NOT CMV	CMV	NA

Adding a trailer with cargo:



C

Rated Under 10,001 Pounds GCWR or Actual (Gross) Weight (A+B+C+D are less than 10,001 pounds)	Over 10,001 pounds GCWR and/or Actual (Gross) Weight (A+B+C+D are over 10,001 pounds)	H/M Placards Required
NOT CMV	CMV	CMV



3) Is this a CMV? Yes No

If **designed** or **used** to transport:

- 8 people including the driver (for **compensated** travel)
- 15 people including the driver (non-compensated or non-profit travel) then it may be a CMV (even if no passengers are present except for the driver). GVW does not matter, but type of driver's license may matter.

This also brings up the concept of “**intent.**” Whether or not a trip is legal is determined on a trip by trip basis. For example, if a pickup or truck is modified and used to haul passengers, then the “intent” is to operate the vehicle like a mini-bus or bus and all of the passenger rules and regulations would apply. On the other hand a bus may have all its seats removed and be modified with the **intent** to haul only property so those rules pertaining to the vehicle's size and use would apply.

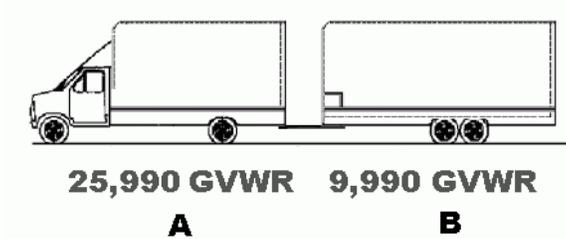
When is a Commercial Drivers' License (CDL) Required?

The regulations in 49 CFR Part 383 apply to all CMV drivers of vehicles “used in commerce” and specify who must have a Commercial Drivers License (CDL).

A CMV under Part 383 is motor vehicle or combination of motor vehicles (tractor trailer, semi-trailer, truck and trailer or even pickup and trailer) transporting passengers or property if:

- a) the gross combination weight rating is 26,001 pounds (1,794 kilograms) or more including a trailer with a gross vehicle weight rating of **more** than 10,000 pounds;
- b) the gross vehicle weight rating is 26,001 pounds (11,794 kilograms); or
- c) it is **designed** to transport 16 or more passengers including the driver; or
- d) the vehicle is any size and is used to transport hazardous materials requiring placards under Part 172 or any quantity of a select agent or toxin under Part 73.

Do these CMVs require a CDL?



1) CDL required Yes No

While the gross weight is over 26,001 pounds, the trailer weight is less than 10,001 pounds – so no CDL is required.

If the GCWR is 26,001 or more including a towed unit(s) **with** a GVWR of **more than** 10,000 pounds, then a CDL is required.



2) CDL required Yes No

If the GVWR is 26,001 or more then a CDL is required.



3) CDL required Yes No

If the vehicle is **designed** to transport 16 or more passengers, then a CDL is required. GVWR does not apply.

Other CMV Facts

Employee's Vehicle as a CMV

An employee offering use of his or her 10,001 GVW truck to the employer may be unknowingly driving a CMV and subject to any rules and regulations for that type of CMV. For example – even if not paid or “on the clock” – the time driving would be considered “on-duty” for Hours of Service purposes.

On the other hand, an unladed CMV may be used as a personal conveyance to drive to a hotel or restaurant.

Interstate Commerce

One does not have to cross state borders to engage in “interstate commerce.” A continuation of an “interstate trip” may constitute interstate commerce. Examples: 1) Picking up passengers from an airport that flew in from another state, or 2) picking up a commodity dumped on a dock, as coal from another state, province or country, or 3) moving a trailer that crossed state lines – may be examples of engaging in “interstate commerce” without leaving your home state.

CMV Driver Qualifications

A CMV driver must be **qualified** to drive a CMV.

Some of the qualifications include:

- Proper license and vehicle endorsements
- A Valid Medical Examiner's card
- Remaining medically fit to drive
- Not using or possessing disqualifying medications
- Be at least age 21 for interstate commerce
- Not be disqualified to drive under Parts 391, 383
- Ability to safely operate the type of CMV based on training and/or experience
- Pass a road test (if required)
- Agree to a background investigation
- Consent to substance abuse testing (if required)
- Not possess more than one driver's license
- Good attitude toward safety

Hazardous Materials

“The current law does not require training for carriers **that do not carry** hazardous materials or cause the transportation of hazardous materials. However, if a carrier does not train its employees to reject hazardous materials, **it unwittingly becomes a carrier of hazmat and subject to the training rules.**” PHMSA

For more information on hazardous materials see:

<http://phmsa.dot.gov/hazmat>

Hazmat training must include:

- general awareness/familiarization;
- function-specific;
- safety;
- security awareness;
- In-depth security training, if a security plan is required; and
- driver training (for each hazmat employee who will operate a motor vehicle).

A violation of any hazardous materials regulation, including training, may result in a civil penalty of up to \$32,500 for each violation and, in certain cases, criminal penalties of up to \$500,000 and imprisonment of up to 5 years. See 49 CFR §107.329 and §107.333.

Driving Dos and Don'ts

Drive Defensively



Defensive driving means different things to different drivers. To the CMV driver defensive driving is essential as it has been estimated that one out of three CMVs is involved in a collision every year. Commercial driving is one of the leading occupations for on the job fatalities and injuries.

What is Defensive Driving?

Awareness is the number one factor in defensive driving. Awareness means being constantly **alert** for anything unusual in a 360 degree pattern.

The aware defensive driver knows his or her own limitations, the capability of the vehicle driven and the characteristics of the road and the ability to **Recognize Dangerous Situations** (judgment – which takes time to develop).

The defensive driver looks for every opportunity to enhance his or her skills and capabilities with the aim of continuous improvement and development.

The ultimate goal of the defensive driver is personal security and collision free driving.



Intersection Defensive Driving



Most collisions between two vehicles occur at an intersection. It has been estimated by traffic safety experts that over 90 percent of collisions could be avoided if the driver involved had ONE extra second of time.

There are several ways a CMV driver may gain that extra second:

1) Cover Your Brake

Cover your brake means to take the foot from the accelerator and place it over the brake. Do not touch the brake pedal with your foot but hover over the brake pedal in readiness.

Many CMVs have air (or air over hydraulic) brakes which are known for “brake lag.” Covering you brake helps to make up for brake lag in stopping.

Most CMVs have **Event Data Recorders** (EDR) or may have a trip-recorder built into the Engine Control Module (ECM). Covering your brake at every intersection helps to establish an **electronic record** of defensive driving and is an essential CMV driving skill.

2) Scan the Intersection

Look left, look right and left again.

Scan the intersection for possible hazards, e.g., right turns on red and vehicles traveling too fast, and do not rely on traffic control devices (stop signs or traffic lights) to stop opposing or side traffic.

Begin to cover the brake and scan well before reaching the intersection and continuing to scan in all directions. Account for traffic one lane at a time, treating each lane as a separate intersection.

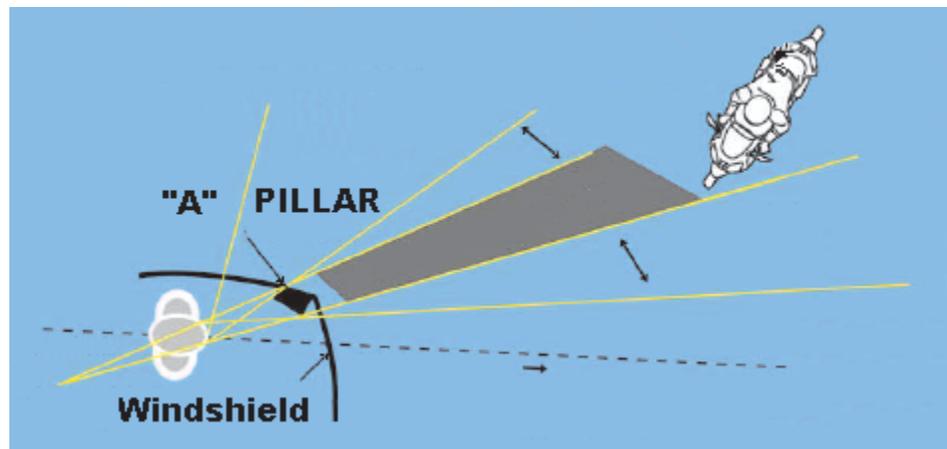
Stopping at Intersections



Stopping at an intersection requires awareness of your vehicle's blind spots at the "A" pillars and mirrors. This blind spot sometimes called the "killer pillar" can hide a pedestrian in the crosswalk, motorcycle or even blend in to hide a tractor-trailer.

- Always make a **complete stop** (three full seconds in some states).

- Double check for anything hidden behind the A Pillar and the mirrors (after stopping)



An example of the reduced visibility of the A Pillar blind spot.

Vehicles may blend in with the background and may be extremely difficult to see. If you do not make a complete stop at a stop sign and "roll" through – the other vehicle may remain in the blind spot leading to a collision.

CMV Under-ride Collisions

There are two types of CMV or truck under-ride collisions: side under-ride and rear under-ride.

Side under-ride collision usually happens at night or during **low sun-angle** conditions. The collision usually occurs when a CMV driver either is attempting to cross or turn onto a street or highway, or attempting a U-turn, or is trying to back across traffic. CMV drivers may assume that on-coming drivers can see them crossing the road; however, on-coming drivers often do not see a truck crossing their path until it's too late.

The most common misconception is that CMVs large size by itself makes them seen by the other drivers. However, size is only one of the factors that create **contrast** between the CMV and its background. The assumption that this one factor in itself – size alone – will make the truck conspicuous and in turn allow approaching drivers to see the truck is often a fatal mistake.

Generally under-ride accidents occur at night. Factors include:

- inoperative or dirty lights on the trailer's side,
- **bright lights** and/or bright sign-boards from a fuel station or truck stop near the side of the road.
- a very slow-moving CMV or truck,
- a truck making a left turn or backing across traffic



Factors that can contribute to **rear under-ride** are:

- inoperative, dirty, or dim taillights;
- taillights placed very close together;
- failure to properly use **reflective triangles** when parked or broken down on or near the road; and
- a failure to use emergency flashers when entering or exiting the highway at slow speeds.

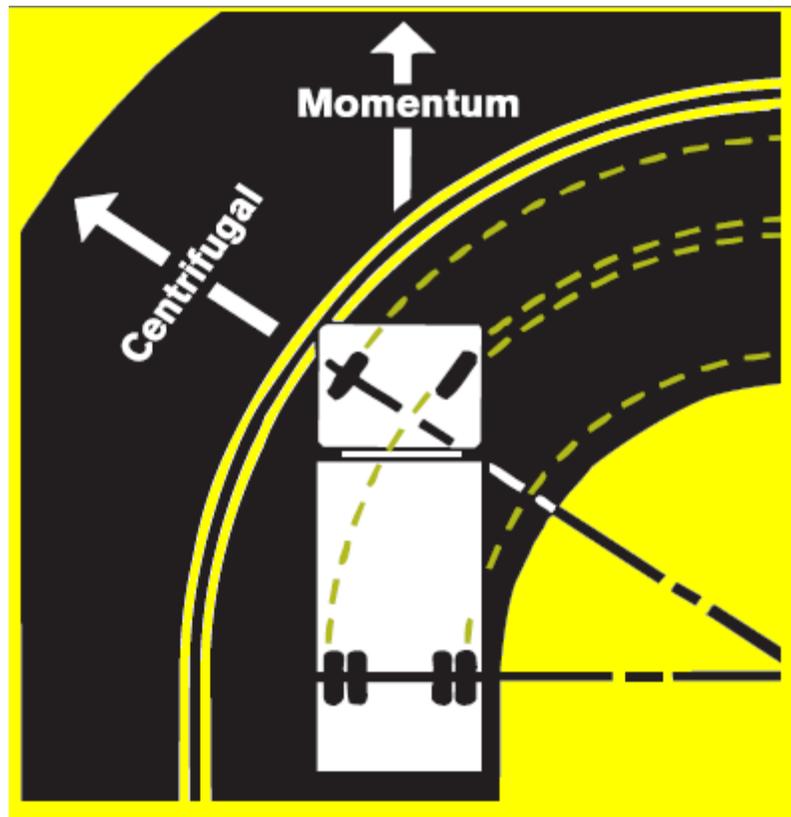
As a result of trailer under-ride collisions, the U.S. Department of Transportation has mandated new conspicuity markings for trailers, which originally had to be installed **on all trailers** made after December 1, 1993. These markings are now required on all trailers.

Source: Dr. John C. Glennon – www.johncglennon.com

CMVs and Curves



Slow down *BEFORE* the curve or turn.
Keep at least **10 miles under the posted speed**.
The posted curve speed is for cars **not CMVs**.



Slowing down before the turn well below the posted speed lowers the chance of tip over, rollover or a skid.

Curve Negotiation

- Brake in a straight line – slow before the curve
- Keep entry speed well below the posted speed*
- Slow down more if necessary
- Downshift before the curve or turn
- Balance the accelerator
- Brush the inside of the curve
- Unwind and accelerate to the outside of the curve

If pulling a trailer, a slight acceleration helps to keep the trailer from “pushing” and assists in the steering of the vehicle. Heavy trailers, especially with a “dry” fifth wheel are harder to steer.

* Note: The posted speeds are for cars, not CMVs.

Vehicle Inspection

The purpose of the vehicle inspection is twofold: 1) safe vehicle operation and 2) putting safety in the forefront.

A proper CMV inspection is required by law, as well as an enroute inspection and end of trip written inspection form.

The CMV is made up of systems. Checking and testing each system (which, at a minimum, should include tires, brakes, warning lights and devices, headlights and clearance lights, windshield wipers, and mirrors) every trip is an essential skill.

If your vehicle is equipped with air brakes, doing the air brake tests shown in the CDL manual will ensure the brakes function and slack adjusters are kept in adjustment.

Batteries

WEAR PROPER EYE PROTECTION AROUND BATTERIES.

Use **Eye Goggles** at all times when the cover is off batteries or the hood is open.

Batteries may EXPLODE at any time.

Flush eyes with any **drinkable** fluid: pop, cold coffee, even urine can be used in an emergency.

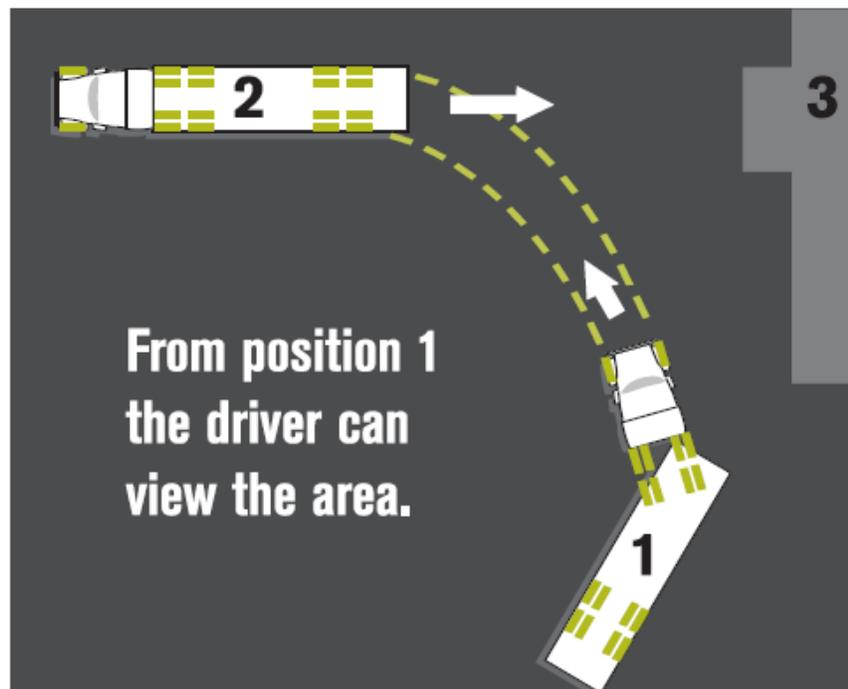
Flush eyes with water for twenty minutes.

Backing

Always use the “Four-Ways” and tap horn twice each time before backing: once for attention; the second time for direction.

STOP backing if you do not see your spotter.

Remember **GOAL: Get Out And LOOK** before backing: **always walk the path.**



CLEARANCE 12' 8"

Most backing vehicle damage is at the rear top of the vehicle.

Vehicle Entry/Exit

Do not jump off of the vehicle.

Do not “walk off” vehicle: back out facing the vehicle.

Use the “**three points of contact** method” to get on/off the vehicle. At all times have both hands and one foot or both feet and one hand on the vehicle if climbing in or out.

Bad Weather

Maintain at least a **six second** following distance behind other vehicles. Increase your following distance in fog, rain, or other adverse conditions.



If you can not see the road due to smoke, fog, heavy rain, snow, etc., then you should not be driving at all.

Rail Way Crossings



Some of the issues a driver must contend with are:

- Sight-restricted crossing;
- Uncontrolled crossings.

While the number of train and CMV collisions is going down each year – the severity of the collisions with trains is increasing. Each week nine or more CMVs are in a collision with a train – including two CMVs every week that are hauling hazardous materials. Factors leading to a collision with a train include:

- Poor visibility of the train at night;
- Lack of preview of crossing;
- Rough crossing and/or steep crossing approaches.
- **Distractions:** construction zones, emergency vehicles, radios and CBs, passengers, bad weather, fatigue, etc.

Hours of Service

Whether you use an exemption sheet (time card) or log book (Record of Duty Status – RODS) is determined by:

- type of CMV driven: CDL or Non-CDL
- how many miles driven;
- how many hours worked in a day;
- crossing state borders (interstate) versus staying in the same state (intrastate) driving.

Take a training class if it has been some time since you used a log book or if you have never had to fill out a log book or Record of Duty Status. You may be fined and the company may later face huge fines (\$1,000s per error).

Rules differ for drivers carrying passengers versus carrying “property.”

Once you become a CMV driver, you must account for 24/7/365 of your time to the DOT.

Some states allow “tolerance” or special rules for intrastate drivers.

Certain industries have their own exemptions: agriculture, utilities, well drilling, etc.

On the first day of a new job, always fill out a “data sheet” showing what hours/times you have worked in the seven days **before** you start driving.

Always fill out a **vehicle inspection report** at the end of the day for each vehicle (CMV or trailer) driven.

Accident Procedures

At the Scene of an Accident

- Stop.
- Protect the scene.
- Assist the injured.
- Call the police.
- Check for witnesses.
- If asked, provide a report to the police.
- Exchange information with other drivers.
- Write everything down and never admit blame.

CDL Driver Post-accident drug and alcohol testing is required under Part 382.303: if the accident involved the loss of life (a fatality) or the driver was cited within eight hours, or if the accident involved bodily injury that required treatment or one or more vehicles sustained disabling damage that required towing:

a.) as soon as practicable for **alcohol** testing and

- 1.) must be completed in two hours after the accident,
- 2.) or must document why it was not done in 2 hours
- 3.) or must cease attempts to administer a test after eight hours and file a record why it was not done

b.) as soon as practicable for controlled substance testing and:

- 1.) must be completed in 32 hours post-accident, or
- 2.) must document why it was not done in 32 hours
- 3.) or must cease attempts to administer a test after thirty-two hours and file a record why it was not done.

Every CMV drivers should have an accident reporting kit, including a camera, witness cards, insurance information, etc.

NOTE: Emergency warning devices (as reflective triangles – required on all CMVs) need to be set up at proper distance from the scene as soon as practical. Review your state’s CDL manual for proper and legal placement.

CMV Training Requirements

In additional to Hours of Service Training, a CMV driver may need training in:

- Load Securement and Security Training
- 49 CFR Part 380 (E) Entry Level Training for new CDL Drivers
- Hazardous Materials Training
- Hazardous Materials Security Training
- Introductory or Refresher Training for specific CMV configurations
- Hazard Awareness / Hazard perception Training
- Safety Training
- Company Policy and Procedures
- Accident Procedures
- Collision Prevention/ Defensive driving
- Extreme driving conditions
 - 2.9 Driving in Winter
 - 2.10 Driving in Fog
 - 2.11 Driving in Very Hot Weather
 - 2.12 Railroad Crossings
 - 2.13 Mountain Driving
- Air brake knowledge
- Coupling and uncoupling
- Overview of the Federal Motor Carrier Safety Regulations (FMCSRs)

CMV Dos and Don'ts

No Riders!



Never ride or transport passengers in the bed of a pickup.

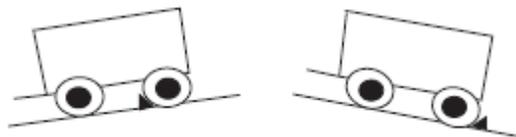
Pickups/flatbeds are designed for hauling cargo, not people.

NEVER CARRY RIDERS ON THE "STEP."

Do not move a CMV with riders on the step outside the cab.

Passengers as hitchhikers are not permitted under DOT rules. All passengers must have explicit written permission from the company to be on-board a CMV.

Chock the Wheels



Block in the direction the trailer is most likely to roll. If in doubt, block both wheels.

Chock wheels when parking your vehicle or trailer.

Every day in the U.S. by some estimates over two dozen CMVs roll away, causing injuries and/or fatalities.

Learn to properly secure your vehicle when parking.

Always use the parking brake and double-check the position of the valves when setting the airbrakes.

Cell Phones

**ENGINE ON.
HANDS OFF.**

Never use a cell phone while the engine is running. Use of cell phones or texting while driving is banned by the DOT for all truck and bus drivers in interstate commerce.

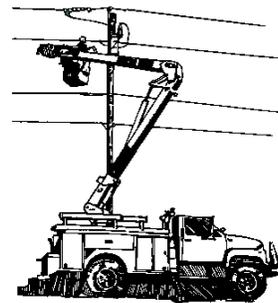
Dump only from flat ground.



Dump only from flat ground.
Aggregate may get stuck in the nose and cause tip-over of the dump.

Working Near Power Lines

Never work near or under power lines.
Working near/under power lines requires special training and precautions.



Extricating "Stuck" Vehicles

If the vehicle is "stuck," company policy should Cover:

- Proper inspection of the vehicle and surroundings
- Cleaning, if necessary, of wheels and chassis
- Traction maximization skills - "rocking"
- Avoid "burning" rubber to gain traction
- Know the proper use of gears
- Avoid wheel spin
- Know safe pushing / pulling techniques
- And, finally, know when to quit

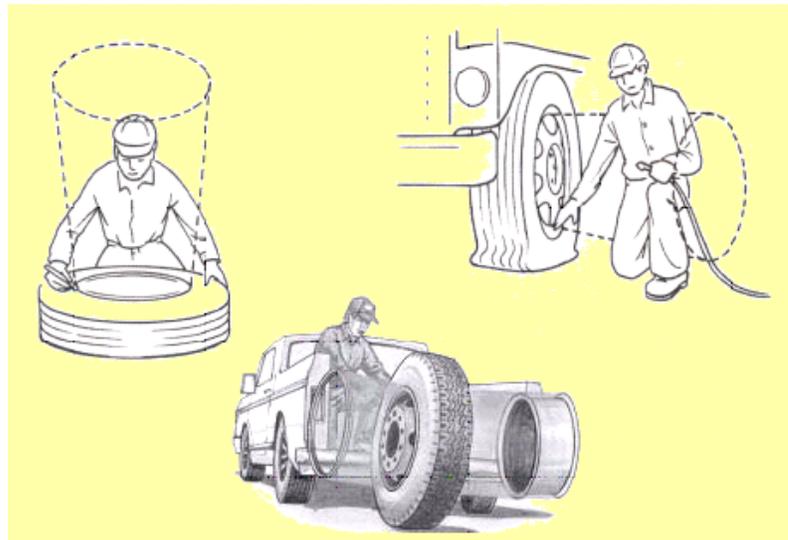
Other Training and/or Policies should identify what to do for:

- Vehicle Malfunctions/Faults and Deficiencies affecting safety
- Blow-outs
- Brake failure
- Power steering or power brake failure
- Accelerator sticking
- Headlight failure
- Animals/debris on the Road
- Winters: chaining the wheels, solid precipitation laws, etc.
- New employee orientation
- Injury and Illness Prevention
- Fueling procedures
-

CMV Maintenance

Flat Tires

WARNING: At all times stay out of trajectory area working around tires.



Flat tires are any tires *under 20%* of proper inflation. DO NOT re-inflate any flat tires unless you are a properly trained tire technician. Tires well over the 80 percent recommended pressure may be inflated on the vehicle if proper precautions are taken. Flats should be properly inspected to find the cause of the leak. **(See OSHA 29 CFR Part 1910.177)**

Working Under Raised Dump



Never work under a raised bed without an approved lift support.



Always block the empty bed before inspection or maintenance.

Fuel Economy

Start Moving Smoothly

Start out smoothly. Do not “rev” diesel engines with “fuel by wire” accelerator pedals. Most post-1996 diesel engines with control the amount of fuel needed to start moving. This is called idling away.

Shift Early

Use the lowest RPMs to get to the next gear.

Anticipate the Grade

If the grade or hill is not too steep or long – run the hill to avoid making a gearshift. Running every hill wastes fuel.

Let the RPMs Guide When to Shift

If the RPMs drop and hold steady – then stay in the same gear over the hill.

If the RPMs drop back quickly and the vehicle will not make the hill – then downshift.

Use Minimum Power on the Downside

As you begin to crest a hill – especially a blind hill - back off the fuel and let momentum carry the vehicle over the top of the hill. Use minimum power or no power to get back to speed. Do not over speed or over rev the engine.

**“Gears are for Going,
Brakes are for Slowing”**

When the accelerator of the diesel engine is released, no compression is developed and the brakes of the vehicle are given the entire task of getting it stopped.

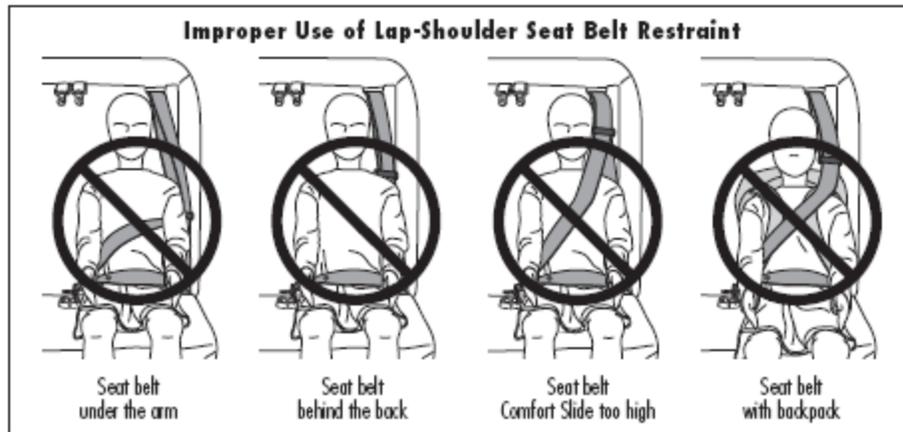
Emergency Situations – Drop-off

Most fatal crashes are single-vehicle crashes, involving lane or road departure.

Wheel Drop-Off (Edge of Road)

- Accelerator – come off the fuel;
- Brake use – engage the brakes lightly as to not to lock the wheels into a skid;
- Steering – both hands for greater control; do not attempt to jerk the wheel back onto the road; center vehicle on road and shoulder.
- Achieve stability and control;
- Return to the road after stopped
- **An emergency return to the road should be avoided** and may result in rolling the vehicle.
- If unable to further control the vehicle, continue to brake and steer along the ditch, letting go of steering wheel before impacting with bottom, if you cannot stop beforehand.
- DO NOT ATTEMPT TO HIT A TREE, LIGHT POLE, OR BOULDER DIRECTLY (HEAD-ON) TO SLOW OR STOP THE VEHICLE. “Side-swipe” any rigid or unmovable objects.
- Practice this technique under the supervision of an authorized skid-school instructor.

Safety Belt Safety



Never put the safety-belt under the arm or behind the back.

Adjust the belt so it's not too high and never wear a backpack while belted.



Next Steps for Further Professional Driving Development

National Safety Council's six-hour Defensive Driving Course for Professional Truck Drivers: Defensive Driving Course – Professional Truck Driver (DDC – PTD) To learn more visit: <http://www.nsc.org>

Smith System

Smith System Driver Improvement Institute, Inc. is a professional driver training company delivering behind-the-wheel instruction to more than 30,000 fleet drivers each year. See <http://www.smith-system.com>

For additional information visit:

www.part380.com



Safety isn't expensive – it's priceless.