



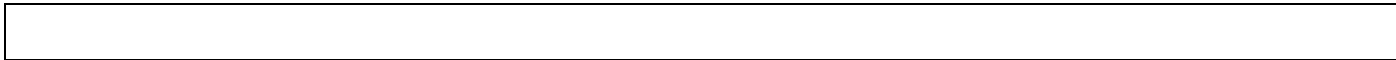
# Colorado Passenger Vehicle & School Bus



## Driver's Manual

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Cover Photo Courtesy of Joseph Ruder

## Section 1: Passenger Vehicles

Bus Drivers must have a commercial driver license if they drive a vehicle designed to seat 16 or more persons, including the driver.

Bus drivers must have a passenger endorsement on their commercial driver license. To receive the endorsement you must take and pass a knowledge test covering this Section and Section 2 of the CDL Driver's Manual. If your bus has air brakes, you must also take and pass a knowledge test on Section 5 of the CDL Driver Manual dealing with the air brake system. Once all of the required written tests have been passed and you have your CDL Instruction Permit, the three step battery of skills tests required for the class of passenger vehicle you drive must be taken and passed to obtain your CDL license.

### 1.1 Vehicle Inspection

Before driving your bus, you must be sure it is safe. You must review the inspection report made by the previous driver. Only if defects reported earlier have been certified as repaired or not needing repair, should you sign the previous driver's report. This is your certification that the defects reported earlier have been fixed.

Make sure the following items are in good working order before driving:

#### Vehicle Systems

- Service brakes including air hose couplings (if your bus has a trailer or semi-trailer).
- Parking Brake.
- Steering mechanism.
- Lights and reflectors.
- Tires (front wheels must not have recapped or regrooved tires).
- Horn.
- Windshield wiper or wipers.
- Rear vision mirror or mirrors.

- Coupling devices (if present).
- Wheels and rims.
- Emergency Equipment.

- **Access Doors and Panels**

As you check the outside of the bus, close any open emergency exits, access doors and panels for baggage, restroom service or engine area before driving.

- **Bus Interior**

People sometimes damage unattended buses. Always check the interior of the bus before driving to ensure rider safety. Aisles and stairwells should always be clear. The following parts of your bus must be in safe working condition:

- Each handhold and railing.
- The floor covering.
- Signaling devices, including the restroom emergency buzzer, if the bus has a restroom.
- Emergency exit handles.

The seats must be safe for riders. All seats must be securely fastened to the bus.

Never drive with an open emergency exit door or window. The 'Emergency Exit' sign on an emergency door must be clearly visible. If there is a red emergency door light, it must work. Turn it on at night or any other time you use your outside lights.

- **Roof Hatches**

You may lock some emergency roof hatches in a partly open position for fresh air. Do not leave them open as a regular practice. Keep in mind the bus's higher clearance while driving with them open.

Make sure your bus has the fire extinguisher and emergency reflectors required by law. The bus must also have spare electrical fuses, unless equipped with circuit breakers.

- **Use Your Seatbelt**

The driver’s seat should have a seat belt. Always use it for safety.

## 1.2 Loading and Trip Start

Do not allow riders to leave carry-on baggage in a doorway or aisle. There should be nothing in the aisle that might trip other riders. Secure baggage and freight in ways that avoid damage and:

- Allow the driver to move freely and easily.
- Allow riders to exit by any window or door in an emergency.
- Protect riders from injury if carry-ons fall or shift.

- **Hazardous Materials**

Watch for cargo or baggage containing hazardous materials. Most hazardous materials cannot be carried on a bus. The Federal Hazardous Materials Table shows which materials are hazardous. They pose a risk to health, safety and property during transportation. The rules require shippers to mark containers of hazardous material with the material’s name, identification number and hazard label. There are nine different 4-inch diamond shaped hazard labels like the examples shown in Figure 1-1. Watch for the diamond shaped labels. Do not transport any hazardous material unless you are sure the rules allow it.

Buses may carry small arms ammunition labeled ORM-D, emergency hospital supplies and drugs. You can carry small amounts of some other hazardous materials if the shipper cannot send them any other way.

- **Forbidden Hazardous Materials**  
Buses must **never** carry

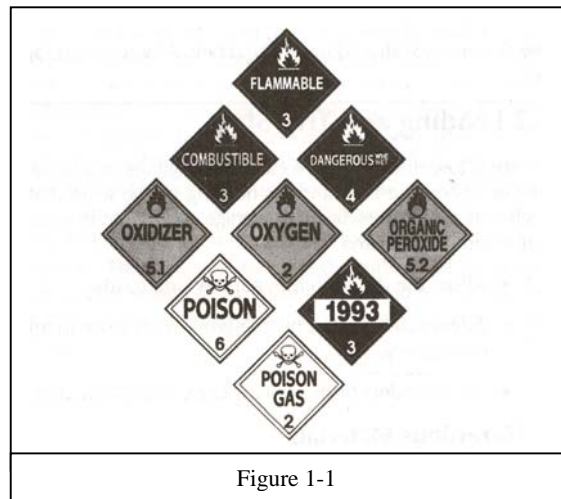


Figure 1-1

- Class 2 poison, liquid Class 6 poison, tear gas, irritating material.
- More than 100 pounds of solid Class 6 poisons.
- Explosives in the space occupied by people, except small arms ammunition.
- Labeled radioactive materials in the space occupied by people.
- More than 500 pounds total of allowed hazardous materials and no more than 100 pounds of any one class.

Riders sometimes board a bus with an unlabeled hazardous material. They may not know it is unsafe. Do not allow riders to carry on common hazards such as car batteries or gasoline.

- **Standee Line**

No rider may stand forward of the rear of the driver’s seat. Buses designed to allow standing must have a 2-inch line on the floor or some other means of showing riders where they cannot stand. This is called the standee line. All standing riders must stay behind this line.

- **At Your Destination**

When arriving at the destination or intermediate stops announce:

- The location.

- The reason for stopping.
- The next departure time and bus number.

Remind riders to take carry-ons with them if they get off the bus. If the aisle is on a lower level than the seats, remind riders of the step-down. It is best to tell them before coming to a complete stop.

Charter bus drivers should not allow riders on the bus until departure time. This will help prevent theft or vandalism of the bus.

## Test Your Knowledge

1. Name some things to check in the interior of a bus during a pre-trip inspection.
2. What are some hazardous materials you can transport by bus?
3. What are some hazardous materials you can't transport by bus?
4. What is a standee line?

These questions may be on the test. If you can't answer them all, reread Sections 1.1 and 1.2.

## 1.3 On The Road

### • Passenger Supervision

Many charter and intercity carriers have passenger comfort and safety rules. The rules about smoking, drinking and use of the radio or tape players should be mentioned at the start of the trip. Explaining the rules at the start will help to avoid trouble later on.

While driving, scan the interior of your bus as well as the road ahead, to the sides and to the rear. During the trip, you may have to remind riders about rules or about keeping arms and heads inside the bus.

### • At Stops

Riders can stumble when getting on or off and when the bus starts or stops. Caution riders to watch their step when leaving the bus. Wait for them to sit down or brace themselves before starting. Starting and stopping should be as smooth as possible to avoid rider injury. Occasionally you may have a drunk or disruptive rider. You must ensure this rider's safety as well as that of others. Don't discharge such riders

where it would be unsafe for them. It may be safer at the next scheduled stop or a well lighted area where there are other people. Many carriers have guidelines for handling disruptive riders.

### • Common Accidents

The most common bus crashes often happen at intersections. Use caution, even if a signal or stop sign controls other traffic. School and mass transit buses can sometimes scrape off mirrors or hit passing vehicles when pulling out from a bus stop. Remember the clearance your bus needs and watch for poles and tree limbs at stops. Know the size of the gap your bus needs to accelerate and merge with traffic. Wait for the gap to open before leaving the stop. Never assume other drivers will brake to give you room when you signal or start to pull out.

### • Speed on Curves

Crashes on curves that kill people and destroy buses result from excessive speed, often when rain or snow has made the road slippery. Every banked curve has a safe '**design speed**'. In good weather, the posted speed is safe for cars but it may be too high for many buses. With good traction, the bus may roll over; with poor traction, it might slide off the curve. **Reduce your speed for curves!** If your bus leans toward the outside on a banked curve, you are driving too fast.

### • Railroad Crossing Stops

Stop at railroad crossings. Stop your bus between 15 and 50 feet before railroad crossings. Listen and look in both directions for trains. You should open your forward door if it improves your ability to see or hear an approaching train. Before crossing, after a train has passed, make sure there isn't another train coming in the other direction on other tracks. If your bus has a manual transmission, never change gears while crossing the tracks.

You do not have to stop, but must slow down and carefully check for other vehicles:

- At streetcar crossings.
- At railroad tracks used only for industrial switching within a business district.
- Where a policeman or flagman is directing traffic.

- If a traffic signal shows green.
- At crossings marked as ‘exempt’ or ‘abandoned’.

- **Drawbridges**

Stop at drawbridges. Stop at drawbridges that do not have a signal light or traffic control attendant. Stop at least 50 feet before the draw of the bridge. Look to make sure the draw is completely closed before crossing. You do not need to stop, but must slow down and make sure it’s safe when:

- There is a traffic light showing green.
- The bridge has an attendant or traffic officer that controls traffic whenever the bridge opens.

### 1.4 Post Trip Vehicle Inspection

Inspect your bus at the end of each shift. If you work for an interstate carrier, you must complete a written inspection report for each bus driven. The report must specify each bus and list any defect that would affect safety or result in a breakdown. If there are no defects, the report should say so.

Riders sometimes damage safety related parts such as handholds, seats, emergency exits and windows. If you report this damage at the end of a shift, mechanics can make repairs before the bus goes out again. Mass transit drivers should also make sure passenger signaling devices and brake door interlocks work properly.

### 1.5 Prohibited Practices

Avoid fueling your bus with riders on board unless absolutely necessary. Never refuel in a closed building with riders on board.

Don’t talk with riders or engage in any other distracting activity while driving.

Do not tow or push a disabled bus with riders aboard the vehicle, unless getting off would be unsafe. Only tow or push the bus to the nearest safe spot to discharge students. Follow your employer’s guidelines on towing or pushing disabled buses.

### 1.6 Use of Brake-door Interlocks

Urban mass transit coaches may have a brake and accelerator interlock system. The interlock applies the brakes and holds the throttle in idle position when the rear door is open. The interlock releases when you close the rear door. Do not use this safety feature in place of the parking brake.

### Test Your Knowledge

1. Does it matter where you make a disruptive Passenger get off the bus?
2. How far from a railroad crossing should you Stop?
3. When must you stop before crossing a drawbridge.?
4. Describe from memory the ‘prohibited practices’ listed above.
5. The rear door of a transit bus has to be open to put on the parking brake. True or False?

These questions may be on the test. If you can’t answer them all, reread Sections 1.3, 1.4, 1.5 and 1.6.

## SECTION 2: SCHOOL BUSES

### This Section Covers

- Introduction
- Danger Zones and Use of Mirrors
- Loading and Unloading
- Emergency Exit and Evacuation
- Railroad-highway Grade Crossings
- Student Management
- Antilock Braking Systems
- Special Safety Situation

### Introduction

The laws and regulations specific to Colorado have been incorporated into this section. The school buses referenced are designed to carry 16 or more students plus the driver and fall within CDL licensing.

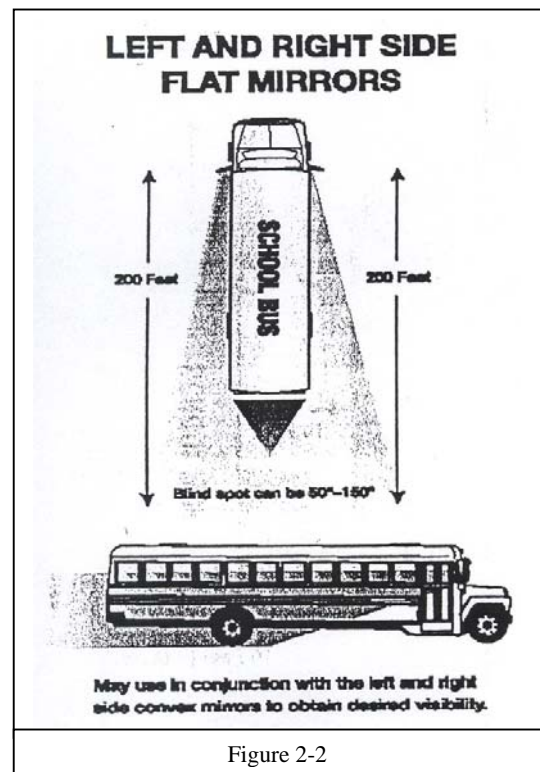
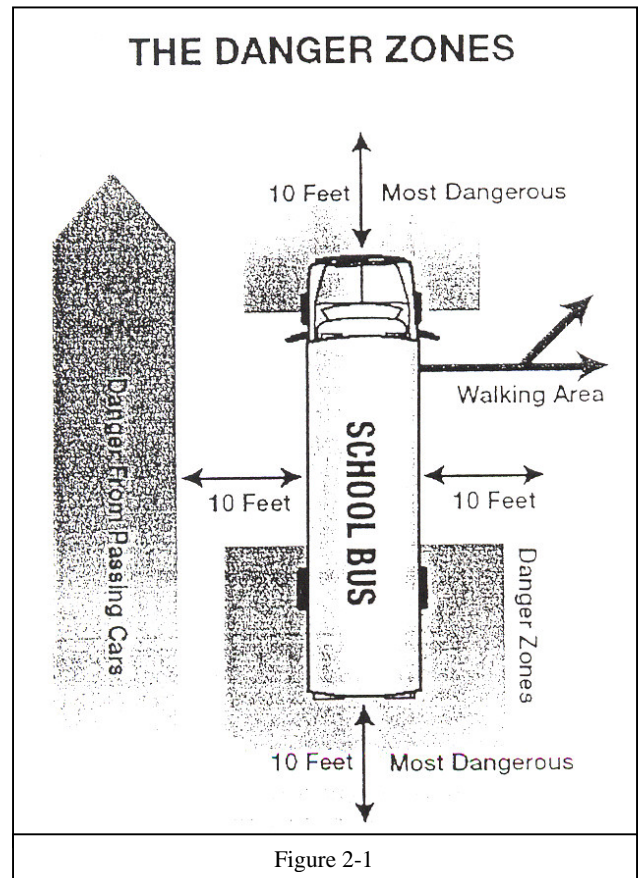
Section 2 covers any driver operating a school bus used to transport public, private, parochial or any other type of pre-primary, primary or secondary students from home to school, from school to home or to and from school sponsored events. 'School Bus' does not include a bus used as a common carrier. A school bus driver should be thoroughly familiar with both the state laws and the Colorado Department of Education regulations concerning school bus operation.

### 2.1 Danger Zones and Use of Mirrors

The danger zone is the area on all sides of the bus where students are in the most danger of being hit, either by another vehicle or their own bus. The danger zones extend 10 feet from the front bumper, 10 feet from the left and right sides of the bus and 10 feet behind the rear bumper of the school bus. In addition, the area to the left of the bus is always considered dangerous because of passing cars. Figure 2-1 illustrates these danger zones.

### 2.2 Correct Mirror Adjustment

Proper adjustment and use of all mirrors is vital to the safe operation of the school bus in order to observe the danger zone around the bus and look for students, traffic and other objects in this area. You should always check each mirror before operating the school bus to obtain the maximum viewing area. If necessary, have the mirrors adjusted.





### 2.3 Outside Left and Right Side Flat Mirrors

These mirrors are mounted at the left and right front corners of the bus at the side or front of the windshield. They are used to monitor traffic, check clearances and students on the sides and to the rear of the bus. There is a blind spot immediately below and in front of each mirror and directly in back of the rear bumper. The newer style crossover mirrors cover this blind spot. The blind spot behind the bus could extend up to 400 feet depending on the width of the bus.

Ensure that the mirrors are properly adjusted so you can see:

- 200 feet or 4 bus lengths behind the bus.
- Along the sides of the bus.
- The rear tires touching the ground.

Figure 2-2 shows how both the outside left and right flat mirrors should be adjusted.

### 2.4 Outside Left and Right Side Convex Mirrors

The convex mirrors are located below the outside flat mirrors. They are used to monitor the left and right sides at a wide angle. They provide a view of traffic, clearances and students at the side of the bus. These mirrors present a view of people and objects that does not accurately reflect their size and distance from the bus because they are convex.

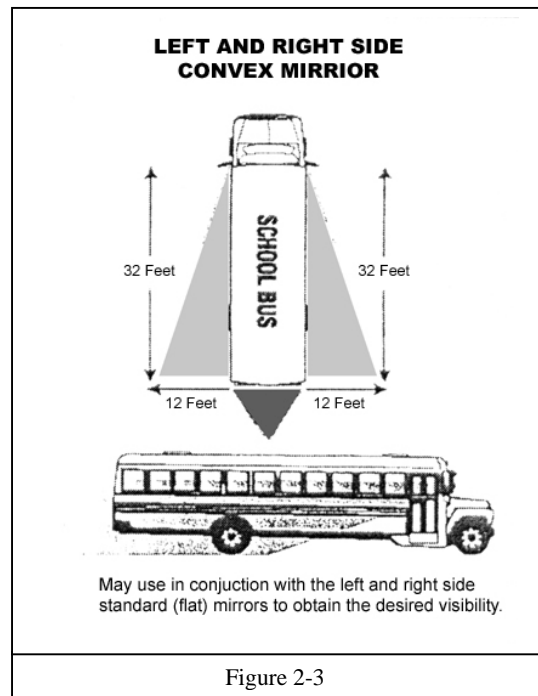
You should position these mirrors to see:

- The entire side of the bus up to the mirror mounts.
- The front of the rear tires touching the ground.
- At least one traffic lane on either side of the bus.

Figure 2-3 shows how both the outside left and right side convex mirrors should be adjusted.

### 2.5 Outside Left and Right Side Crossover Mirrors

These mirrors are mounted on both left and right front corners of the bus. They are used to see the front bumper 'danger zone' area directly in front of the bus that is not visible by direct vision and to view the 'danger zone' area to the left side and



right side of the bus, including the service door and front wheel area. The mirror presents a view of people and objects that does not accurately reflect their size and distance from the bus. The driver must ensure that these mirrors are properly adjusted.

Ensure that the mirrors are properly adjusted so you can see:

- The entire area in front of the bus, from the front bumper at ground level to a point where direct vision is possible. Direct vision and mirror view vision should overlap.
- The right and left front tires touching the ground.
- The area from the front of the bus to the service door on the right and to the stop arm on the left.
- These mirrors, along with the convex and flat mirrors, should be viewed in a logical sequence to ensure that a child or object is not in any of the danger zones.