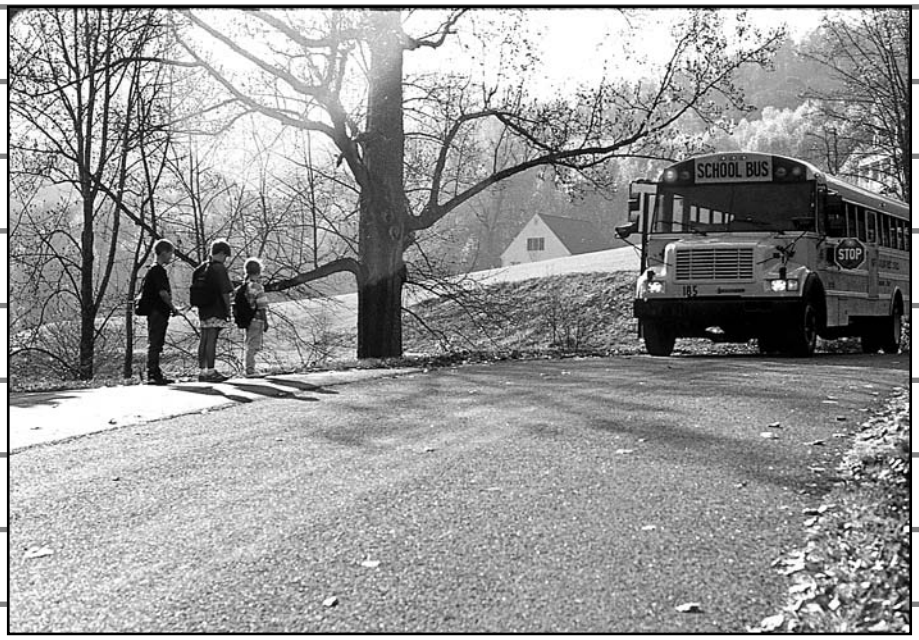
N.C. Department of Transportation • Division of Motor Vehicles School Bus & Traffic Safety Section

Handbook for School Bus Drivers



18th Edition | Commercial Driver License | April 2014

FOREWORD

This manual describes the requirements for obtaining a North Carolina Commercial Driver License (CDL) with Passenger and School Bus endorsements, in addition to School Bus Driver Certification. The information contained in this manual provides information to assist you in passing the required knowledge and skills tests.

Federal Motor Carrier Safety Administration (FMCSA) Regulation 383.5 defines a school bus as "a CMV used to transport pre-primary, primary, or secondary school 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."

To operate a school bus or school activity bus under this definition, you must have the proper class CDL with P and S endorsements [NC General Statutes (GS) 20-37.12(a); 20-31.16(a)(b)(c) and 20-218(a)].

NC GS 20-4.01(27d4) defines a school bus as, "a vehicle whose primary purpose is to transport school students over an established route to and from school for the regularly scheduled school day, that is equipped with alternately flashing red lights on the front and rear and a mechanical stop signal and that bears the plainly visible words "School Bus" on the front and rear. The term includes a public, private or parochial vehicle that meets this description." (School bus words are about 8").

North Carolina Administrative Code 19A (NCAC) 03G.0205(i) states that school bus driver applicants "shall complete the training course for school bus drivers." A Division of Motor Vehicles (DMV) Driver Education Program Specialist (DEPS) teaches this course.

FOR SCHOOL BUS CERTIFICATION

- Meet physical and legal requirements.
- Complete the 3-day School Bus Driver Training Course.
- Pass all required knowledge tests with a score of 80% or better.
- Complete behind-the-wheel training with a DEPS.
- Pass three skills tests.
- Go to any NC DMV Driver License Office for issuance of your CDL.
- After obtaining your CDL, present it to the proper school official for completion of the certification process and administrative procedures.

FOR ACTIVITY BUS CERTIFICATION

- Meet physical and legal requirements.
- Public school activity bus drivers must complete the school bus certification process.
- All others may complete the school bus certification process or
- Pass all knowledge and skills tests with a DEPS (the DEPS may provide training before testing) or
- Pass knowledge tests at a driver license office (a DEPS has to administer the "S" endorsement test), obtain a learners permit, practice driving with a licensed activity bus driver and pass all skills tests with a DEPS.
- Go to any NC DMV Driver License Office for issuance of your CDL.
- After obtaining your CDL, present it to the proper school official for completion of administrative procedures.

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CHAPTER ONE: *Driver Requirements*

Physical Requirements

School bus drivers must be physically and mentally competent to operate a school bus. To do this, you must be in good physical condition. A driver who is fatigued or has an illness that requires medication should not drive.

Recognizing that driving is a privilege and that some medical conditions might adversely affect driving performance and safety, the NC DMV monitors certain driver medical conditions. If questions arise about a school bus driver's physical condition, the DMV may require the driver, before or after school bus certification, to submit a completed medical report, which it provides.

Your physician will complete the report and forward it to the DMV Medical Section for approval/denial of driving privileges. Conditions that require medical screening may result in disqualification for school bus certification and/or a CDL and could have an impact on your regular driver's license. A person may withdraw from the medical review program if they no longer desire a CDL. Conditions that will require medical screening for school bus certification are:

- Loss or impairment of a limb;
- Diabetes;
- Clinical diagnosis of cardiovascular disease;
- Certain respiratory conditions;
- High blood pressure which affects ability to operate a commercial motor vehicle;
- Rheumatic, arthritic, orthopedic, muscular, neuromuscular, or vascular diseases;
- Epilepsy or any other similar condition;
- Mental or emotional disorder;
- Cannot perceive a forced whispered voice in the better ear at not less than 5 feet with or without a hearing aid;
- Use of a controlled substance, an amphetamine, a narcotic or any other habit-forming drug.
- A current clinical diagnosis of alcoholism.

A school bus driver must have acceptable vision:

- Distant visual acuity of at least 20/40 (Snellen) in each eye, with or without corrective lenses;
- Field of vision of at least 70° in each eye and
- Can recognize the colors red, green and amber.

School bus driver applicants with medical conditions may discuss the conditions with the DEPS. Only the Medical Review Section can make the actual determination of suitability for driving a school bus (the DEPS may make a determination concerning vision).

Legal Requirements

(19A NCAC 03G.0205)

1. Have a good driving record, including/not limited to:
   - Within the last 12 months:
     - Not more than one conviction for a moving violation or
     - No conviction of
       - reckless driving;
       - speeding in excess of 15 mph above the posted limit;
       - passing a stopped school bus or
       - a moving violation which caused an accident.
   - Within the past five years:
     - No more than three convictions for moving violations;
     - No more that two convictions of moving violations which caused an accident;
     - No conviction of driving while impaired or
     - No instances of driver license suspension or revocation for moving violations.
   - For life: no more than one conviction of driving while impaired.

   Note: For certification purposes a Prayer for Judgment Continued (PJC) is considered a conviction (19A NCAC 03G.0204(1)).
2. Recent state residents (of five years or less) must provide a copy of their driving record, from their former state of residence showing an acceptable driving history. Obtaining the driving record is the responsibility of the applicant. Drivers who transferred a CDL from another state are exempt from this.
3. Satisfactorily complete the school bus driver training course under the instruction of a DEPS. If a prospective school bus driver exhibits evidence of improper or unsafe driving practices, procedures or attitude, the DEPS has the authority to deny school bus certification.
4. Be at least 18 years of age with at least six months driving experience as a licensed motor vehicle operator;
5. Have school bus certification and a valid, proper CDL.
6. Be approved by the principal, transportation director, superintendent and board of education (GS 20-218).

The Commercial Driver's License Tests and Other Safety Rules

The Commercial Vehicle Safety Act of 1986 requires all states to meet minimum standard requirements for licensing commercial drivers and requires each commercial driver to hold a commercial driver license (CDL). A CDL is required to drive the following types of vehicles:

- A single vehicle with a gross vehicle weight rating (GVWR) of 26,001 pounds or more.
- A combination vehicle with a gross combination weight rating (GCWR) of 26,001 pounds or more inclusive of a towed unit(s) with a gross vehicle weight rating of more than 10,000 pounds.
- A vehicle designed to transport more than 15 people (including the driver).
- Any size vehicle that requires hazardous materials placards.

CDL Tests

(FMCSA Regulations 383.23; .113; .117; .123 and .135)

You must pass written tests, with a minimum score of 80%, for the CDL driver license class and endorsements for which you are applying. The tests include:

- **General Knowledge Test**: required of all applicants;
- **School Bus Test**: only school bus driver applicants;
- **Passenger Transport Test**: only bus driver applicants;
- **Air Brake Test**: only air brake vehicle applicants.

After you have passed the knowledge tests, you must successfully complete the CDL skills tests in the type of vehicle for which you wish to be licensed. You will perform the skills tests using a school bus. There are three types of CDL skills tests: the Pre-Trip Inspection Test, Basic Control Skills Test and Road Test.

- **Pre-Trip Inspection Test**: Checks your ability to know when the bus is safe to drive. For this test you will be asked to perform a pre-trip inspection of the bus. Using a scoring form, the instructor will mark each item that you correctly identify and/or explain for inspection.
- **Basic Control Skills Test**: Evaluates your performance of basic driving skills by your ability to safely control the bus. For this test you must perform various basic driving exercises such as turning the bus or moving it forward and backward within an area marked by traffic cones or painted lines. The instructor will explain how you must perform each exercise and will score you on how well you stay within the traffic boundaries and by the number of pull-ups you make.
- **Road Test**: Evaluates your ability to drive the bus safely in a variety of situations. You must perform the test on a route the instructor specifies. The route will include navigating left and right turns, intersections, railroad crossings, curves and elevation grades while driving on rural roads, urban/suburban multi-lane streets and expressways. Along the route the instructor will score your ability to perform specific tasks.

Obtaining Your CDL

After you have passed the required knowledge and skills tests, your instructor will enter your test results in the State Automated Driver License System and certify you as a school bus driver for the school district where you will drive. You may then go to any NC Driver License Office for CDL issuance.

Other CDL Safety Regulations

Whenever you obtain your CDL, you must surrender all other driver licenses you hold. Commercial drivers are restricted to one driver license (FMCSA Regulation 383.21). As a commercial driver, if you have more than one driver license, you violate federal law and could be fined.

A nationwide information network allows each state to share data about commercial drivers. The computerized system allows immediate access to driving records and collision reports and helps to ensure that each commercial driver holds only one driver license.

It is illegal to operate a commercial vehicle while under the influence of an impairing substance. This is known as the Zero Tolerance Law (GS 20-138.2a). Driving While Impaired (DWI) is a criminal offense punishable by a loss of driving privileges for one year following the first convicted violation and lifetime driver license revocation upon the second conviction (GS 20-17.4). If any commercial driver's Blood Alcohol Concentration (BAC) is less than 0.04 percent but there is a detectable trace of alcohol on their breath, they will be placed out of service for 24 hours (FMCSA Regulation 392.5).

Anyone who holds a CDL automatically agrees to chemical analysis by the implied consent of driving a commercial motor vehicle. Any commercial driver who refuses chemical analysis will lose driving privileges immediately for a minimum period of 30 days (GS 20-16.2).

You must report all convicted moving traffic violations, in any type vehicle, to your employer and the state issuing your CDL within 30 calendar days (FMCSA Regulation 383.31). You should contact a DEPS or school transportation official after being cited for advice on how a conviction would impact your school bus certification.

Notify your employer immediately if your driver license is suspended, revoked or cancelled or you are otherwise unqualified to drive (FMCSA Regulation 383.33).

TEST YOUR KNOWLEDGE

1. What are the physical requirements for a school bus driver?

2. What are the legal requirements for driving a school bus?

Multiple Choice Questions

1. Which of the following would disqualify a person from driving a school bus?
   a) DWI within last 5 years;
   b) Under the age of 18;
   c) Two PJC's in the previous 12 months;
   d) all of the above.

2. The purpose of the Commercial Driver License is to:
   a) require all drivers to meet minimum standards for Driver Licensing;
   b) provide more revenue for the Federal Government;
   c) to keep drivers from having more than one license;
   d) both a & c.

3. School bus certification:
   a) is a basic legal requirement to drive a school bus in North Carolina;
   b) is required in addition to a CDL;
   c) is evidence that a driver has demonstrated safe driving attitudes, procedures, and skills;
   d) all of the above.

4. What kind of Driver's License must be obtained from the DMV to operate a school bus?
   a) CMV Class B or C with Chauffeur's Endorsement;
   b) appropriate class CDL with P and S Endorsements;
   c) CDL Class A with B (Bus) endorsement;
   d) CMV Class A or B with Passenger Restriction.

CHAPTER TWO: *The School Bus Driver*

Driving Defensively

The school bus driver is the most important person in school transportation. The safety of your passengers is in your hands. Your dedication and commitment are essential to safe school transportation. You accept certain responsibilities to the community you serve in addition to your responsibility to the students who ride your bus. As a model for your passengers and a representative of the school district, your conduct and appearance should contribute to safety, respect and pleasant relations with passengers, their parents and other motorists. Your conduct, personal appearance and the appearance of the bus you drive leave an impression on parents, other motorists and the general public. That impression should always be a good one.

To be a safe school bus driver, you must always stay mentally alert, keep focused on your driving and be prepared for every possible emergency. Never allow hazardous weather conditions, road conditions or the actions of pedestrians and other drivers to cause a collision. Always be alert to recognize a potential hazard far enough in advance to apply the necessary preventive action such as yielding right of way to prevent a collision. Always drive defensively and be careful not to commit driving errors. Make allowances for the lack of skill, knowledge or proper attitude by other drivers. As a defensive driver, always exercise self-control, alertness, foresight, skill and good judgment.

As a school bus driver, your greatest responsibility is to transport students to and from school safely and on schedule. Unless directed by the school principal or superintendent, never use a school bus for any purpose other than transporting the assigned passengers to and from school for a regular school day. Recognize that there is a very definite value in knowing the parents of the pupils who ride your bus. Parents are interested in their children and appreciate knowing the driver who is transporting them. Any interest you display will cultivate respect for you on the part of the parents and will make the job of driving the school bus more enjoyable and successful.

The following regulations require some extra effort but help to create a safe and pleasant trip.

- Load and unload only at regularly designated stops except by permission of the school principal.
- Allow only the assigned passengers to ride the bus unless the school principal grants special permission.
- Never stop along the bus route at stores or service stations unless they are regularly designated stops.
- After unloading the last passenger in the afternoon, drive the bus directly to its regular parking place. Stopping for personal reasons is not allowed.
- Do not allow anything to distract you from driving. Smoking, eating, drinking and portable stereos must not be permitted on the bus.
- The only physical contact you should have with students is administering first aid and/or evacuating the bus.
- Avoid using cellular telephones or two-way radios while operating the bus.

Operating on Schedule

Schools operate on a regular schedule. Prompt arrival at school shows dependability and builds good will between you, students, parents and the school principal. The key to operating a school bus on schedule is to begin the route at the same time each morning, drive at a safe speed and encourage passengers to be prompt. These rules can help you to maintain a good operating schedule.

- During the first few days of driving on a new bus route, you should note the amount of time you need to complete the route so that after a few days you can post a schedule showing the estimated arrival time at each passenger stop.
- You should arrive at school at the same time each morning as directed by the school principal.
- Unusual weather and road conditions might require extra travel time. Advise passengers of possible schedule changes that result from inclement conditions.
- If you are late, never try to make up lost time by driving faster than a safe speed.
- Encourage passengers to be prompt. When you maintain a good schedule, you build a good relationship between yourself, passengers, parents and the school.

Maintaining Good Discipline

You are responsible for students on the bus just as the teacher is responsible for students in the classroom. If you explain and enforce the rules of your bus consistently, you will gain the cooperation and respect of your passengers. If they understand that you are fair and will enforce rules with their safety in mind, they will be more likely to follow the rules and accept your authority. Recognize each child's individuality. You cannot maintain discipline and respect if you are too harsh or too lenient.

Standing Passengers

Standing passengers are not permitted in a moving school bus (16 NCAC 06B.0102). Sometimes there may be more passengers than seats on the bus, especially during the first few days of a new school year. In such cases, use seats to the maximum and report the problem to your supervisor.

Requesting a Substitute Driver

You do not have the authority to appoint a substitute. If you cannot or should not drive, contact your supervisor who may then appoint a substitute driver.

Reporting Mechanical Bus Defects

Report all needed repairs as soon as possible. Most schools have a daily sign-in sheet where you can note any needed repairs. Report the defect until it is repaired.

Cleaning the Bus

You are responsible for keeping the school bus clean on a daily basis. A clean bus helps to promote a positive image of the school and the driver.

Recordkeeping

You must submit some reports as required by the local school system. Your supervisor may assist you with these reports.

TEST YOUR KNOWLEDGE

1. Explain and give examples of the five characteristics a defensive driver must exercise.

2. Discuss ways a school bus driver can maintain good discipline.

Multiple Choice Questions

1. The driver's most important responsibility is to:
   a) transport students to school safely;
   b) set up passenger stops;
   c) transport students on schedule;
   d) both a & c.

2. The person who has the authority to assign a substitute bus driver is:
   a) the parent;
   b) the Driver Education Program Specialist;
   c) your supervisor;
   d) the driver.

3. Who has the responsibility of cleaning the bus on a daily basis?
   a) mechanic;
   b) driver;
   c) custodian;
   d) students.

4. Which of these is not a way to keep a reliable, "on-time" operating schedule?
   a) arrive at the school at the same time each day;
   b) drive faster if you are behind schedule;
   c) encourage your passengers to be prompt;
   d) prepare for unusual weather and road conditions.

CHAPTER THREE: *Pupil Transportation Administration*

The Principal (or other designated person)

As principals are responsible for their schools, they are also responsible for their bus drivers. Consider your school principal as your friend, adviser and immediate superior. The principal should be informed of any local day-to-day problems that arise. In many schools, the day-to-day responsibilities of the principal are delegated to an assistant principal. In some counties, they are delegated to a transportation coordinator or other supervisor. The authority of the principal should not be questioned.

The principal has five major responsibilities:
- Assigning drivers to buses;
- Establishing routes, stops and turn around points;
- Assigning passengers to buses;
- Ensuring that buses are in safe operating condition;
- Appointing monitors as needed.

The principal has authority to discharge a bus driver:
- For lack of interest in safe transportation;
- For infractions of bus driver regulations;
- For disorderly conduct;
- On recommendation of the transportation director;
- When required for the best interest of the school.

As a disciplinary measure, the school principal may suspend a pupil from riding a school bus for any reason, including but not limited to the following:
- Delaying the bus schedule;
- Fighting, smoking, using profanity or refusing to obey instructions of school authorities or a bus driver while riding on a school bus;
- Tampering with the bus;
- Refusing to meet the bus at designated stops;
- Unauthorized leaving of the bus when enroute;
- Playing, throwing trash, paper or other objects or otherwise distracting the driver's attention while the bus is in operation and/or
- Failing to observe established safety rules and regulations.

Establishing the routes over which school buses operate is primarily the responsibility of the school principal. You must adhere to the established route and refrain from taking the bus off the regular route without the permission of the principal. Diverting a school bus from its designated route without the permission of the principal or transportation director may result in serious consequences. This may include dismissal and possible legal action in a civil suit in case of a collision.

The Passengers

Certain rules are designed for the school bus occupants' discipline and safety. You should see that each student knows and follows these rules, calling upon the aid and authority of school transportation officials when necessary. Set a good example at all times. In meeting the bus, the passengers should:
- Be on time;
- Stand on the side of the highway and in no way interfere with traffic;
- Wait to cross the road until the bus has arrived and stopped with the stop-sign out and the door open and
- Wait their turn while getting on the bus.

On the bus, passengers must observe regular classroom conduct (except for ordinary conversation) and other rules of the school system. The following rules apply:
- Sit in assigned seat;
- Do not talk to or otherwise disturb the driver;
- Do not extend hands or arms out of the window;
- Remain seated while the bus is moving;
- Keep the bus clean and sanitary;
- Do not use tobacco and profane or indecent language;
- Never damage or deface the bus and
- Do not bring dangerous or prohibited items on the bus, such as guns, knives, gasoline, car batteries, animals, drink bottles or projects too large to be held on the lap.

Note: Activity bus passengers may bring along baggage if it is safely secured and if the driver and passengers are protected from shifting and falling packages and are able to move freely and easily through the bus. Each passenger must have normal access to all exits.

Transportation Director

The transportation director has charge of the operations of the school bus garage and responsibility for seeing that each school bus is in safe mechanical condition. If the director finds that a certain driver is hard on the equipment, which is usually an indication that the driver is careless and unconcerned about the safety of passengers, disciplinary action may result. The transportation director also assists the principal in routing and general administration of school transportation.

Others Involved in Pupil Transportation

The State Board of Education

The State Board of Education exercises general supervision over school transportation in North Carolina. It delegates this responsibility for supervision and management to the Office of the State Controller and to the Division of Transportation, which is a part of that office.

The education board, controller and the Division of Transportation allocate to the respective school units the state-appropriated funds due them. These funds cover the basic costs of wages for school bus drivers and the operation of the school bus garages. Local boards may supplement these expenditures as they may wish.

Local Board of Education

The local board of education may choose to operate a transportation system and is responsible for the original purchase of buses. Local rules and regulations may be adopted above and beyond the minimum set by the state.

Superintendent of Schools

The local superintendents of schools have, as a part of their duties, the general responsibility for the smooth functioning of the transportation system.

Commissioner of Motor Vehicles

The commissioner appoints representatives to train and certify school bus drivers.

Driver Education Program Specialist

The DEPS, a DMV representative, trains and certifies school bus drivers. All aspects of driver certification are governed by the Rules Governing Issuance and Cancellation of School Bus Driver Certificates (19A, NCAC 03G) and the DEPS Procedures Manual.

While local school units select, hire, assign and dismiss school bus drivers, the DMV, through the DEPS, will cancel the school bus driver certification of any driver on the basis of an unacceptable driving record or a disqualifying medical problem. Examples are:

- A suspension, revocation, or cancellation of the driver license.
- Conviction of any of the following motor vehicle moving offenses:
  - Driving while impaired;
  - Passing a stopped school bus;
  - Hit and run;
  - Careless and reckless driving;
  - Speeding more than 15 miles per hour above the posted speed limit;
  - Two convictions within a period of 12 months;
  - A violation committed with a school bus.
  - A violation of any State or local traffic law in connection with a fatal accident;
  - Improper or erratic lane changes or
  - Following the vehicle ahead too closely.

Note: For certification purposes, a Prayer for Judgment Continued (PJC) is considered a conviction [19A NCAC 03G.0204(1)].

TEST YOUR KNOWLEDGE

1. What are the principal's responsibilities regarding school bus drivers?

2. What are the principal's responsibilities regarding school bus passengers?

Multiple Choice Questions

1. Which of the following items are prohibited on a school bus?
   a) guns;
   b) gasoline;
   c) large class projects;
   d) all of the above.

2. Who has the responsibility of setting up passenger stops?
   a) the driver;
   b) the parents;
   c) the Driver Education Program Specialist;
   d) the principal (or designated person).

3. The DMV can cancel school bus certification for which of the following:
   a) bad driving record;
   b) medical reasons;
   c) revocation or suspension of driver license;
   d) all of the above.

4. A PJC (Prayer for Judgment Continued):
   a) has no effect on a driver's school bus certification;
   b) is considered the same as a conviction for a school bus driver;
   c) will help the schools keep qualified drivers;
   d) both a and b.

CHAPTER FOUR: *Safe Driving Procedures*

A school bus is much longer, wider and heavier than a car. Driving the bus requires more preparation, thought and care. The procedures described in this chapter are intended to promote the safety and comfort of school bus passengers and to ensure that they arrive at school/home safely.

Riding in the bus with you are several dozen children whose lives are in your hands and depend on your good judgment.

Care and Maintenance of the Bus

The life and reliability of a school bus depend on how well you treat the bus. Daily inspections and expert handling can prolong the life of the bus and increase its service quality. Never attempt to make repairs to the school bus but always be alert to the bus' mechanical condition and report all problems to the proper officials.

The school district transportation director is ultimately responsible for maintaining the school bus in a safe operating condition. You should not drive a bus that has a known safety defect. Always respect the judgment and suggestions of mechanics about school bus equipment maintenance and care.

School Bus Inspections: Why Inspect?

Safety

The most important and obvious reason to inspect a school bus is to ensure safety. Inspecting the bus helps the driver to know that it is safe to drive.

Legal Requirements

Federal and state laws and school district regulations require school bus inspections. School buses are subject to inspection at any time by state and local agencies.

Types of Inspections

Pre-Trip Inspection

Perform a pre-trip inspection before each trip to find problems that could cause a crash or breakdown.

During the trip

- Watch gauges for signs of trouble.
- Use your senses to check for potential problems (look, listen, smell, and touch).
- Check critical items between trips, such as:
  - Brakes (the most important item to check);
  - Lights and
  - Cargo security (for activity buses).

Post-Trip Inspection

Perform a post-trip inspection at the end of each trip. The inspection might require submitting a vehicle condition report noting any problems you have found. The vehicle condition report helps to alert school transportation officials to problems that need repair.

Inspection Procedure

Inspection Method

You should carry out the pre-trip inspection in the same manner every time so you will learn each step and be less likely to forget something. You may use a memory aid when you take your CDL test. When you take your test, you must explain to the DEPS what parts of the vehicle you are inspecting and describe the possible defects you are looking for. It will help you pass the test if you practice this beforehand. The DEPS will deduct points from your total score for important items on the bus that you fail to inspect. Before proceeding, ensure that the engine is off, the parking brake is set and/or the wheels are chocked, if chock blocks are available. The following inspection procedure can be a useful guide.

Overview

Notice the general condition. Note any damage or if the bus is leaning to one side. Look underneath for fresh puddles of oil, coolant, grease, or leaking fuel. Observe the surrounding area for hazards (people, other vehicles, objects, low hanging wires and limbs, etc).

Front of Vehicle

- **Clearance lights** - lens clean, unbroken, proper color.
- **"School Bus" wording** - clean and plainly visible (8").
- **Passenger stop lights** - lens clean, unbroken, proper color.
- **Warning lights** - lens, clean, unbroken, proper color.
- **Windshield** - clean and unbroken. View not obstructed.
- **Turn signals** - lens clean, unbroken, proper color.

- **Headlights** - clean, unbroken,
- **Walking control arm** – securely mounted, intact.
- **Leaks** – check for fluids under engine & transmission area.
- **Passenger mirrors** - clean, unbroken, securely mounted and adjusted properly. Bracket not damaged or loose.

Engine Compartment (engine not running)
- **Windshield washer fluid** – at adequate level.
- **Water pump** – securely mounted. Belt - not cracked, frayed, excessively worn or more than 3/4 inch looseness. Hoses - not damaged or leaking.
- **Alternator** - securely mounted; wires – securely fastened. Belt - not cracked, frayed, excessively worn or more than 3/4 inch looseness.
- **Coolant** – at proper level.
- **Oil level** - above the add mark.
- **Power steering** - fluid at proper level; belt (if equipped) is not cracked, frayed, excessively worn or has more than 3/4 inch looseness.
- **Air compressor** - mounted securely, not leaking; belt (if belt driven) – not cracked, frayed, excessively worn or more than 3/4 inch looseness.
- **Steering box** - mounted securely, not leaking, no missing bolts or nuts. Hoses are not damaged or leaking,
- **Steering linkage** – steering shaft, drag link and tie rod are not worn or cracked. Joints - not worn or loose. No loose or missing nuts, bolts or cotter pins.

Right Front Suspension
- **Springs** - not cracked, broken, displaced or missing.
- **Spring mounts and U-Bolts** – in place, not cracked or broken, no missing or loose bolts or nuts.
- **Shock absorber** - secure, not leaking.

Right Front Brakes
- **Brake chamber** – securely mounted, no cracks or dents, not leaking, no loose or missing clamps.
- **Air hose** –not damaged or leaking, couplings secure.
- **Slack adjuster** – securely mounted; no bent, broken, loose or missing parts; push rod moves less than 1 inch.
- **Brake drum (or rotor)** - no cracks or holes. Linings (or pads) have no evidence of oil, grease or excessive wear.

Right Front Wheel
- **Tire** - at least 4/32 inch tread depth, worn evenly, no cuts or damage, valve stem caps present, air pressure proper.
- **Rim** - not bent or damaged, no welding repairs.
- **Lug nuts** - none missing or loose (no rust around nuts), no cracks around lug bolt holes or distorted holes.
- **Hub oil seal** - no leaks. If sight glass present, oil level is adequate.

Right Side
- **Traffic mirrors** - clean, unbroken and secure. Bracket not damaged or loose.
- **Passenger door** – not damaged, opens and closes properly; glass - clean and unbroken.
- **Clearance lights** - clean, unbroken, proper color.
- **Storage compartment door** –operable, closed, no damage.
- **Fuel cap** - secure. Door closed.
- **Windows** - clean and unbroken.
- **Reflectors** - clean, unbroken, proper color.

Underneath
- **Fuel tank** - secure, no leaks.
- **Frame** – no cracks or bends in longitudinal members. No loose, cracked, bent, broken or missing cross members.
- **Exhaust system** – securely mounted with no loose clamps and no cracks, holes, severe dents or evidence of leaks.
- **Drive shaft** - not bent, twisted or cracked. U-joints appear secure and free of foreign objects.

Right Rear Suspension
- (**Spring suspension** – springs, spring mounts & shock absorber – same as front). Air suspension – check:
- **Air bags** – not damaged or leaking.
- **Air bag mounts** – air bag mount, trailing arm, trailing arm mount and torque rod are in place, mounted securely and not damaged. No missing or loose bolts or U-bolts.
- **Shock absorber** - secure, not leaking.

Right Rear Brakes
- **Brake chamber, Air hose, Slack adjuster and Brake drum** – Same as front.

Right Rear Wheel
- **Tire** - at least 2/32 inch tread depth, worn evenly, no cuts or damage, valve stem caps present, air pressure proper.
- **Rim** - not bent or damaged; no welding repairs.
- **Lug nuts** - none missing or loose (no rust around nuts), no cracks around lug bolt holes or distorted holes.
- **Axle seal** - not leaking.
- **Spacer or Budd Spacing** – tires evenly spaced. Spacer is not damaged or rusted through.

Wheel Chair Lift (if equipped)
- **Door** – not damaged, opens and closes properly.
- **Lift** – no leaks or damage or missing parts. Operates properly. Fully retracted and latched securely.

Rear
- **Clearance lights** - lens clean, unbroken, proper color.
- **"School Bus" wording** - clean and plainly visible (8").
- **Passenger stop lights** - lens clean, unbroken, proper color.
- **Warning lights** - lens, clean, unbroken, proper color.
- **Windows** - clean and unbroken.
- **Turn signals** - lens clean, unbroken, proper color.
- **Tail lights** - clean, unbroken,
- **Brake lights** - clean, unbroken,
- **Reflectors** - clean, unbroken, proper color.
- **License plate** – clean/secure.
- **Door** – not damaged; opens, closes and latches properly; safety catch (if equipped) works properly.
- **Strobe light** – not broken.
- **Splash Guard** – not damaged, mounted securely.

Left Rear Wheel
- **Tire** - at least 2/32 inch tread depth, worn evenly, no cuts or damage, air pressure proper.
- **Rim** - not bent or damaged; no welding repairs.
- **Lug nuts** - none missing or loose.
- **Axle seal** - not leaking.
- **Spacer or Budd Spacing** – tires evenly spaced.

Left Side
- **Clearance lights** - clean, unbroken, proper color.
- **Reflectors** - clean, unbroken, proper color.
- **Windows** - clean and unbroken.
- **Rear & front suspension & brakes** - same as right side.
- **Stop sign** – securely mounted, not damaged. Light lenses - not cracked, broken or missing and proper color.
- **Traffic mirrors** - clean, unbroken and secure. Bracket not damaged or loose.

Left Front Wheel
- **Tire** - at least 4/32 inch tread depth, worn evenly, no cuts or damage, air pressure proper.
- **Rim** - not bent or damaged.
- **Lug nuts** - none missing or loose.
- **Hub oil seal** - not leaking.

Lights Operation Checks
- **Front:** Clearance lights, warning lights, passenger stop lights, turn signals (right and left), hazard lights and headlights (high and low beam). Also check walking control arm for proper operation and air leaks.
- **Right side:** Clearance lights.
- **Rear:** Clearance lights, warning lights, passenger stop lights, turn signals (right and left), tail lights, hazard lights, brake lights, strobe light and back up lights.
- **Left side:** Clearance lights and stop sign lights. Also check stop sign for proper operation and air leaks.

Passenger Entry
- **Steps** – Clear with good, secure tread. Light works.
- **Handrail(s)** - secure.

Emergency Equipment
- **Reflective triangles** – three are present.
- **Fire extinguisher** – present, properly charged and secured.
- **Spare fuses** - present or equipped with circuit breakers.
- **First-aid kit** – present, contains required items.
- **Body fluid clean up kit** - present, contains required items.

Passenger Area
- **Seats** - not damaged, no broken frames, securely fastened to the floor, cushions secure to frame, no seats added.
- **Emergency exits** - open and close properly, not damaged. Warning buzzers operate when opened. While driving, exits must be closed but not locked or blocked.

Pre-Driving Adjustments and Starting Engine
- **Adjust the seat.**
- **Adjust the mirrors.**
- **Check seat belt for damage, mounting and adjustment.**
- **Fasten the seat belt.**
- **Check the parking brake to ensure it is applied.**
- **Depress the brake pedal.**
- **Check gearshift** – must be in to neutral.
- **Check Anti-lock Braking System (ABS)** – Turn ignition switch on. Indicator light should illuminate, then go off.
- **Start engine.**

Check Gauges
- **Oil pressure** – builds normally, warning light goes off.
- **Temperature** – climbs to normal range, warning light off.
- **Fuel** - shows there is enough fuel for the trip.
- **Voltmeter** - shows the battery is being charged.
- **Air pressure** – works properly, cuts out at 120 psi.

Check Inside Controls
- **Horn** – works, audible for at least 200 feet.
- **Steering wheel** - has less than two inches of play.
- **Interior lights** - work.
- **Heaters** – fan works on low & high. Air flows thru vents.
- **Defroster** – fan works on low & high. Air flows thru vents.
- **Wipers** - work on low & high; blades - not damaged.
- **Windshield washers** – work properly.
- **Turn signal indicators** – work on right and left.
- **Hazard light indicators** – work on right and left.
- **High beam indicator** - works.

Brake Checks
- **Parking brake** – with the engine running, air pressure in the range of 90 – 120 psi and parking brake engaged, shift the transmission to drive, release the brake pedal and accelerate lightly (less than 1500 rpm). Bus should not move.
- **Service brake** – Release the parking brake and move forward slowly (about five mph). Press the brake pedal firmly. Note any problems such as unusual noise, unusual feel, pulling to one side or delayed stopping.

Air Brake Checks

Check for leaks, alarm and button pop-out: the LAB test. Failure to perform all three air brake checks correctly and in order during the vehicle inspection will result in vehicle inspection test failure. If you realize that you have not done the LAB test correctly, before concluding the test, you may start the procedure over.

Leaks - With air pressure at the governed cut-out pressure of 120 pounds per square inch (psi), shut the engine off, chock the wheels if necessary, fully apply the foot brake and release the parking brake. Keep firm pressure on the foot brake for one minute after the gauge stabilizes. Check the air pressure gauge to see that air pressure loss does not exceed three psi and listen for leaks.

Alarm - Turn ignition key to on. Apply and release the foot brake repeatedly to reduce the air pressure. The low air pressure warning light and buzzer should come on before the air pressure drops below 60 psi. Turn ignition key off.

Button pop-out – Continue to reduce air pressure. The parking brake button should pop out when the air pressure drops to between 20 - 45 psi.

Hydraulic Brake Checks (if equipped)

Pump brake pedal three times and maintain pressure for five seconds. Brake pedal should not move during the five seconds. If equipped with a reserve system, press and hold the brake pedal. With the ignition switch off, listen for the sound of the reserve system electric motor.

The pre-trip inspection will be demonstrated during the behind-the-wheel phase of your training

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If you find anything unsafe during the pre-trip inspection, get it fixed! Federal and state laws, as well as school bus rules, forbid operating an unsafe vehicle.

TEST YOUR KNOWLEDGE

1. List five things you should check inside the bus during a pre-trip inspection.

2. Name two pieces of emergency equipment required aboard school buses.

Multiple Choice Questions

1. What is the minimum tread depth for front tires?
   a) 3/42 of an inch;
   b) 3/20 of an inch;
   c) 4/32 of an inch;
   d) 4/30 of an inch.

2. Why must you do a vehicle inspection?
   a) for safety;
   b) to assist the principal with his report;
   c) required by federal and state laws;
   d) both a and c.

3. L-A-B is used to describe:
   a) the stop light system;
   b) accident prevention formula;
   c) adverse weather conditions;
   d) air brake test.

4. What does LAB stand for?
   a) leaks, anti-lock, bleed;
   b) leaks, alarm, button pop-out;
   c) leaks, alarm, bleed down;
   d) none of the above.

INSPECTION OUTLINE

1. Overview: damage, possible problems, leaks under engine.

2. Front: wording, windshield, headlights, clearance lights, stop lights, warning lights, signals, walking control arm, mirrors.

3. Under Hood: oil, coolant, water pump, alternator, power steering fluid, steering box, steering linkage, air compressor (master cylinder on hydraulic systems), washer fluid

13. Left Front Suspension: springs, spring mounts, shock absorber (same as right side).

Left Front Brakes: hose, chamber, slack adjuster, drum (same as right side).

Left Front Wheel: tire, rim lugs, hub oil seal (same as right side).

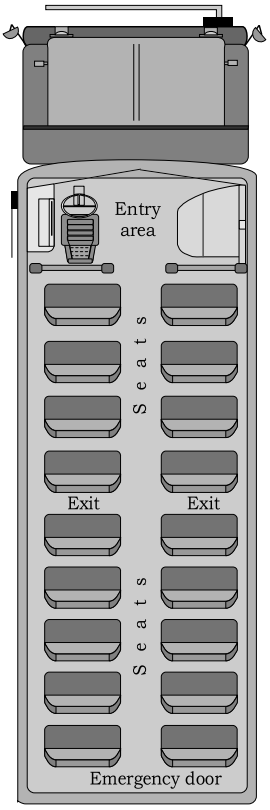
12. Left Side of Bus: mirrors, windows, lights, reflectors (same as right side).

11. Stop sign.

10. Left Rear Suspension: springs, spring mounts, shock absorber or air bags, air bag mounts and shock absorber (same as right side).

Left Rear Brakes: hose, chamber, slack adjuster, drum (same as right side).

Left Rear Wheel: tire, rim, lug nuts, axle seal, spacer (same as right side).



9. Rear of Bus: wording, windows, clearance lights, stop lights, warning lights, brake lights, signals, back up lights, door, license plate.

4. Right Front Suspension: springs, spring mounts, shock absorber.

Right Front Brakes: hose, chamber, slack adjuster, drum.

Right Front Wheel: tire, rim, lug nuts, hub oil seal.

5. Right Side of Bus: door, mirrors, windows, lights, reflectors.

6. Fuel Area: fuel cap, fuel tank, leaks.

7. Under Bus: frame, exhaust, drive shaft.

8. Right Rear Suspension: springs, spring mounts, shock absorber or air bags, air bag mounts and shock absorber.

Right Rear Brakes: hose, chamber, slack adjuster, drum.

Right Rear Wheel: tires, rim, lugs, axle seal, spacer.

Interior of Bus

1. Passenger Entry: steps, light, handrail(s), door.

2. Emergency Equipment: reflective triangles, fire extinguisher, first aid kit, body fluid clean up kit, fuses.

3. Passenger Seating, Emergency Exits and Windows.

4. Pre-Driving Adjustments: seat, mirrors, seat belt, brakes, gear, ABS.

5. Start Engine.

6. Check Gauges: oil, temperature, fuel, battery, air.

7. Check Inside Controls: horn, play in wheel, interior lights, heaters and defrosters, wipers and washers.

8. Check Outside Controls: headlights, clearance lights, tail lights, brake lights, reverse lights, right signals, left signals, hazard lights, warning lights, stop lights, stop sign, walking control arm, door switch, all indicator lights.

9. Brake Checks: leaks, alarm, button pop-out, parking brake, service brake.

(On hydraulic systems, check for hydraulic pressure problems and check booster motor, if applicable.)

Steering and Stopping the Bus

Before moving the bus, you should first turn on any necessary electrical switches such as headlights, defrosters, turn signals, etc. Depress brake pedal, release parking brake, shift to drive (or reverse), check traffic and proceed.

Steer smoothly, turning the wheel with a hand–over–hand motion. Keep both hands on the steering wheel at the ten–o'clock and two–o'clock positions. Driving with both hands on the steering wheel is much safer than driving with only one hand. If you are forced to steer quickly or with a jerking motion, you will have better control.

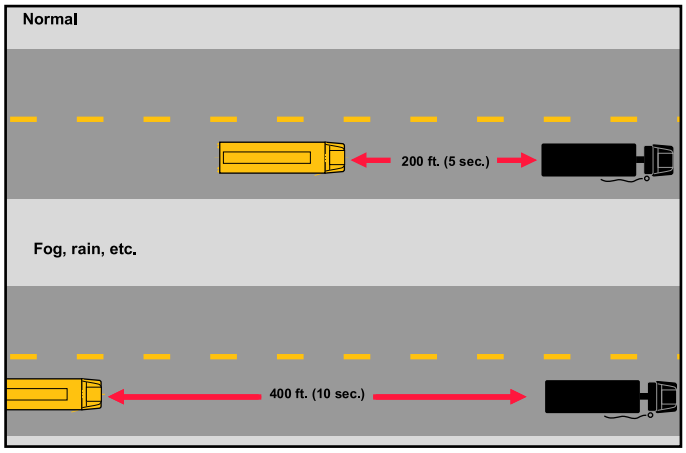
Use your right foot for normal braking. A school bus is much heavier than smaller vehicles and requires the driver to begin braking earlier in order to stop smoothly. For a smooth stop, feather the brake by slightly reducing pressure on the brake pedal at the instant just before the bus stops rolling. The feathering action will release a small amount of brake pressure. Never stop suddenly except in an emergency or to prevent a collision.

To keep from rolling back on an uphill grade, it is permissible to use your left foot to press the brake while you accelerate with your right foot. As the bus starts to move forward, gradually release the brake until the bus no longer rolls back and continues to move ahead.

Safe Following Distance

Always maintain a safe following distance between your bus and a vehicle ahead. This following distance should be long enough for you to be able to safely and smoothly stop the bus under any condition. Constant practice to accurately estimate following distance can keep you prepared for most circumstances. The most important rule of maintaining a safe following distance is to keep at least 5 seconds between your bus and the vehicle ahead when weather and road conditions are normal and at least 10 seconds between your bus and the vehicle ahead when conditions are hazardous. For city driving, you may have to adjust following distances fit smoothly with the traffic flow.

GS 20-152 provides that *"the driver of a motor vehicle shall not follow another vehicle more closely than is reasonable and prudent," with regard for the safety of others.*



Following distance may vary according to conditions.

Never follow more than one school bus moving through a city block at the same time. When following two school buses, maintain at least one city block's distance between your bus and the pair ahead. In the afternoon, proper bus dispatching from the school should eliminate most instances of school buses following each other too closely. According to DMV records, unsafe following distances contribute to a large percentage of school bus driver violations.

Stopping Distance

There are four components of total stopping distance:

Perception distance
Reaction distance
Brake lag distance (for vehicles with air brakes)
\+ Effective braking distance

= Total stopping distance

Perception Distance

This is the distance your vehicle travels from the moment you see a driving hazard until your brain recognizes it. The perception time for an average driver is about 3/4 second. Perception distance varies directly with the vehicle's speed of travel. A vehicle moving at 55 miles per hour travels about 60 feet in 3/4 second.

Reaction Distance

This is the distance your vehicle travels from the time you recognize a driving hazard until you react to it (e.g., you release the accelerator and press the brake pedal). The average driver has a reaction time of 3/4 second, accounting for an additional 60 feet of travel for a vehicle moving at 55 miles per hour.

Brake Lag Distance

For vehicles with air brakes, there is an added delay for the brakes to work after you press the brake pedal. It takes a little time for the air to flow through the lines to the brakes. During the average 1/2 second brake lag delay, a bus moving at 55 miles per hour will travel an additional 32 feet.

Effective Braking Distance

This is the distance it takes to stop your vehicle after you apply the brakes. With good brakes and normal driving conditions (dry pavement, level roadway, etc.), a heavy vehicle travelling at 55 miles per hour can take 170 feet and 4 1/2 seconds to stop.

Total Stopping Distance

The total stopping distance for a vehicle is the sum of the perception, reaction, brake lag* and braking distances. A heavy vehicle moving at 55 miles per hour will need at least 6 1/2 seconds to stop and a minimum total stopping distance of 322 feet - about the length of a football field.

**Included if vehicle has air brakes*

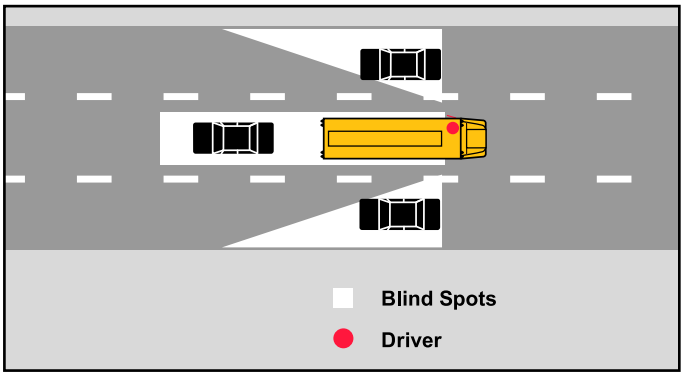
The Effects of Weight and Speed on Stopping Distance

A heavy vehicle requires more braking power to stop than a lighter one because the heavier vehicle creates more friction and heat for the brakes to absorb. The brakes, tires, springs and shock absorbers for heavy vehicles are designed to work best when the vehicle is fully loaded.

Moving at a higher speed greatly increases a vehicle's required stopping distance. When the speed of travel is doubled, the corresponding braking distance increases by four times. This formula also applies to the destructive power of speed during a collision. When a vehicle travels twice as fast, it increases its destructive power in a crash by four times. By slowing down, you can stop a vehicle more quickly and reduce the risk of a collision.

Changing Lanes

When driving in an urban/suburban area you may frequently change lanes. Changing lanes with a bus requires greater concentration and more careful use of mirrors than changing lanes with a car. To change lanes, signal early, thoroughly check mirrors and blind spots and gradually move into the new lane. When you have positioned the bus in the new lane, disengage the turning signal.



The three cars in this illustration cannot be seen by the bus driver.

Approaching an Intersection

Intersections occur at points where roads and streets join, meet or cross. They can be different sizes and shapes depending on the angle(s) by which the roadways meet. Intersections are the most dangerous places on a roadway. More collisions occur at intersections than any other place. Be prepared to stop each time you approach an intersection.

Right of Way

There are two types of intersections — regulated and unregulated. Regulated intersections have a traffic control device such as a signal or sign. Unregulated intersections have none. When approaching an unregulated intersection, reduce speed, check traffic and continue to move only when others have yielded right of way to you. If another vehicle is in or very near the intersection, you must yield right of way to it. When two vehicles arrive at an unregulated intersection at the same time, the vehicle on the left shall yield right of way to the vehicle on the right (GS 20-155). The law only names which vehicle must yield right of way. It never states that any vehicle has the right to proceed. Right of way laws are designed to prevent collisions by prescribing which vehicle must move last.

Yield Signs

Because of the restricted visibility, slow acceleration and length of a school bus, use extreme caution as you approach a yield sign. Approach the intersection where you must yield at a speed that is reasonable for the existing conditions but slow enough to allow you to stop and yield right of way to another vehicle in the intersection or to avoid a hazard.

Stop Signs

You must stop at intersections when there is a stop sign for your lane. Before proceeding, look in all directions at least twice. Resume travel only when you can move without interfering with the movement of another vehicle.

Traffic Signals

Approach each traffic signal (light) expecting it to change at any moment. Always obey the color of the traffic signal:

- **Red light:** Stop and wait for the green light before proceeding. For safety reasons, do not turn right on red.
- **Yellow light:** Prepare for the red light that will follow.
- **Green light:** Check to be sure that approaching traffic is stopped and proceed with caution.
- **Flashing yellow light:** Slowly proceed with caution.
- **Flashing red light:** Stop, check for approaching traffic and proceed with caution when it's safe to move.

Traffic Officer

A uniformed traffic officer always has authority above regular traffic signs and signals. You must follow the officer's instructions regardless of regular traffic devices. When an officer is directing traffic, there is usually a specific problem or hazard. There could be a collision ahead, malfunctioning traffic signal or missing sign.

Private Drive

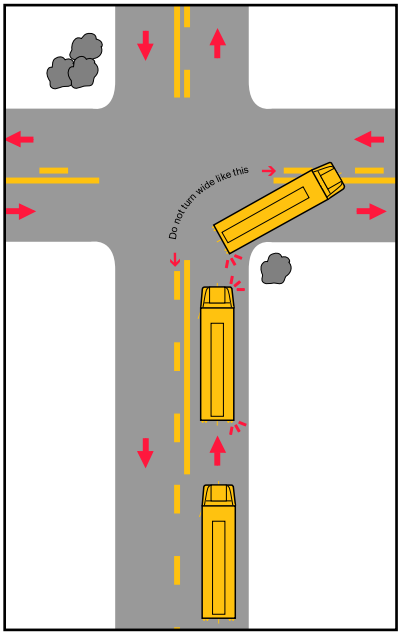
When leaving a driveway, yield the right of way to the approaching vehicles on the roadway where you are entering. Check for approaching traffic and proceed with caution when it's safe.

Crossing Main Highways

Use extreme caution while crossing or entering a major highway. When moving from a complete stop, a school bus normally requires at least six seconds to cross and clear an average two-lane highway. Multi–lane highways, especially divided highways, require even more time. An automobile traveling at 55 miles per hour can move 485 feet in six seconds. Before you move the bus onto a highway, be certain that you have enough time to safely clear the intersection. Always check and recheck for approaching traffic before entering or crossing any road. Look first to the left, where the hazard of approaching traffic is closer. The slogan for the school bus driver must be: "The school bus driver never has right of way."

While driving, never take a risk. Be a courteous driver and remember that the law requires all drivers to yield right of way to pedestrians and vehicles on narrow bridges, on the roadway, at intersections and in any hazardous situation.

Turning the Bus

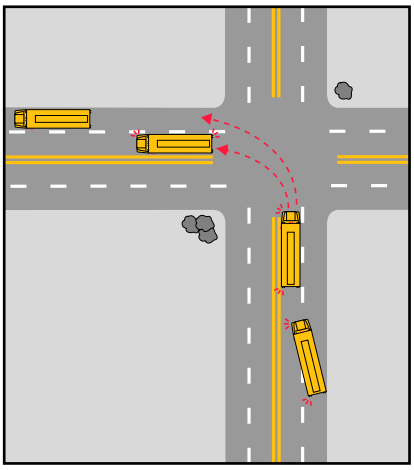


A safe and proper right turn.

Many collisions result from improper and unsafe turns. Errors such as moving to fast, turning too soon, striking an object on the right or left, turning from the wrong lane and failing to yield right of way are common contributors to collisions. You can prevent many of these mistakes by following safe driving habits such as knowing in advance where you are going, getting into the proper lane well in advance of the turn, turning carefully and deliberately using hand-over-hand steering and always being prepared to stop or yield the right of way. Be sure to turn into a lane that is both lawfully available and the one that will benefit you the most down the road.

In addition to these preventive measures, the following procedure should be used to make a safe turn:

- Get in the proper lane well in advance of the turn.
- Check traffic (to the front, rear and sides).
- Engage the turn signal 300 feet in advance.
- Slow gradually to 10 mph or less at least 50 feet before the turn.
- Check traffic (to the front, rear and sides as well as the road in which you are turning.
- Check clearance while turning.
- Straighten the bus and check traffic (to the front, rear and sides).
- Check to see that the signal cancelled.



A safe and proper left turn.

TEST YOUR KNOWLEDGE

1. When does the bus driver have the right of way? Is this a state law or an attitude, recommended for safety?

2. What are the dangers of swinging the bus far to the left before turning right?

Multiple Choice Questions

1. What items make up total stopping distance?
   a) good brakes, alert driver, dry pavement;
   b) strong foot, good tires, correct lag pressure;
   c) perception, reaction, brake lag and braking distance;
   d) perception, reaction, brake lag and following distance.

2. When making a turn, how far in advance should you engage your turn signal?
   a) 500 feet;
   b) 200 feet;
   c) 300 feet;
   d) 400 feet.

3. What is the definition for reaction distance?
   a) the distance you travel before realizing there is a problem;
   b) the distance you travel after applying the brakes;
   c) the distance traveled while moving your foot from accelerator to brake pedal;
   d) the delay in braking response.

4. Doubling your speed:
   a) doubles stopping distance;
   b) doubles air turbulence and wind resistance;
   c) multiplies stopping distance 4 times;
   d) multiplies stopping distance 3 times.

Backing

Never back unless it is absolutely necessary. If you must, remember that there are several things you can do to ensure safety. Approaching traffic may not know that you are backing. Use the hazard lights (four-way flashers) and sound the horn to alert them. Since there are blind spots that your mirrors cannot show you, appoint a responsible person to be a monitor at the inside rear of the bus to help you see what is behind you. Verbally communicate with the monitor before you begin and while backing. Check traffic to the front, rear and sides before and throughout the maneuver, using mirrors as needed. Always back slowly without using the accelerator and be prepared to stop for problems or improper position. Repositioning may be necessary. In summary, use these safe driving practices:

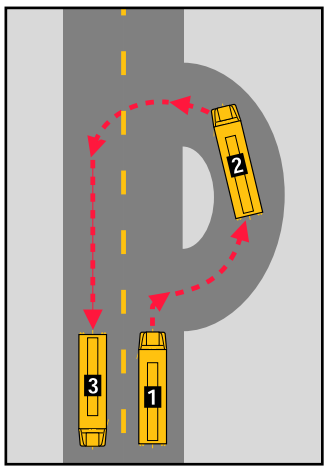
- Check traffic (front, rear, and sides).
- Engage hazard lights (four-way flashers).
- Communicate with monitor.
- Sound horn.
- Back slowly, with no acceleration.
- Continue to check traffic and with monitor.

Turning Around

Consult with school transportation officials to select the safest place to turn around. A safe place should have at least 500 feet of unobstructed visibility in both directions and plenty of clearance for the bus. Using an unsafe place for turning around could eventually lead to a collision. Report any unsafe conditions at a turnaround point to school transportation officials. There are three methods of turning the bus around - the forward turn around, right side road turn around and left side road turn around. Each maneuver is described, listed in the preferred order.

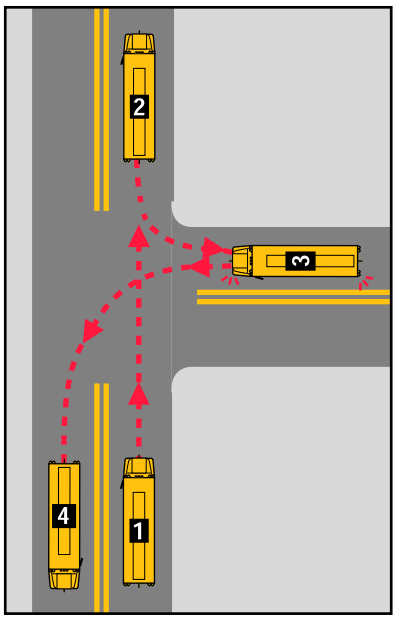
Forward Turn Around

Because backing the bus is an extremely dangerous procedure, the safest way to turn around is to avoid backing and use a forward turn around instead. To perform the forward turn around, use an adequately sized, safe area away from the road, such as a parking lot, where you can move forward in a wide circle.



Forward turn (no backing).

Right Side Road Turn Around

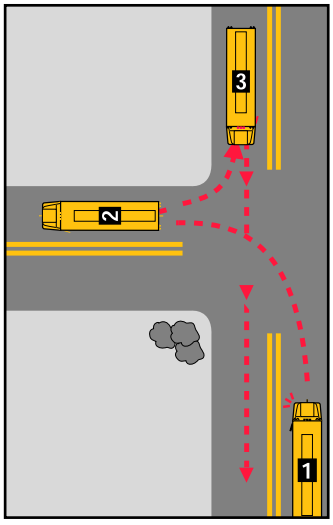


Side road (right).

The second safest method for turning the bus around is to use a side road on the driver's right side. To perform the right side road turn around, use a safe, intersecting side road on the right. Drive far enough past the side road to clearly see it behind and to the right of the bus. Activate your hazard lights, sound your horn and use a monitor. To turn around, cautiously back the bus onto the side road into the correct lane of travel.

Left Side Road Turn Around

Sometimes you might have no choice for turning the bus around except to use a side road on the left. To perform the left side road turn around, make a standard left turn onto a safe, intersecting side road. Activate your hazard lights, sound your horn and use a monitor. Then cautiously back right onto the main road. Backing onto a main road is very dangerous.



Side road (left).

Safety Rules

- Turn around only at places designated by the principal.
- Always keep the bus in the proper lane of travel.
- Observe all the precautions for backing.
- If you must turn the bus around by backing at a passenger stop, make sure all the passengers are on the bus when you back. If you are loading passengers at the turn around point, load them onto the bus before turning around. If you are unloading passengers at the turn around point, unload after turning around.
- On a divided highway, the bus may not be able to make a U-turn from one inside lane to the opposite inside lane. Because divided highways are often heavily traveled, a U-turn at a median crossover point is extremely hazardous.
- Inform school transportation officials of any turn around problems you notice on your route.

Speed Limits

- The basic speed law requires every driver to maintain a speed that is "reasonable and prudent" under the existing conditions (i.e., drive the bus with the flow of traffic, but never move at an illegal or unsafe speed). When weather, road or vehicle conditions are hazardous, reduce speed (GS 20-141).
- Except when the posted speed limit is lower, the maximum speed limit for a school bus is 45 miles per hour (GS 20-218b).
- On school grounds, the maximum speed limit is 10 miles per hour.
- The maximum speed limit for a school activity bus is 55 miles per hour (GS 20-218b).

Speed Control

The maximum speed is controlled by a computer on newer buses and a governor on older buses. If speed is not controlled properly, report it to school transportation officials immediately.

Monitoring Devices

A monitoring device (e.g., tachograph, global positioning) is sometimes installed on a bus to survey and report driving routines. These devices can record the time of day for each bus stop and start, the duration of each stop, the amount of driving time between stops and the speed of travel. Some can monitor the bus on its route, providing real time data.

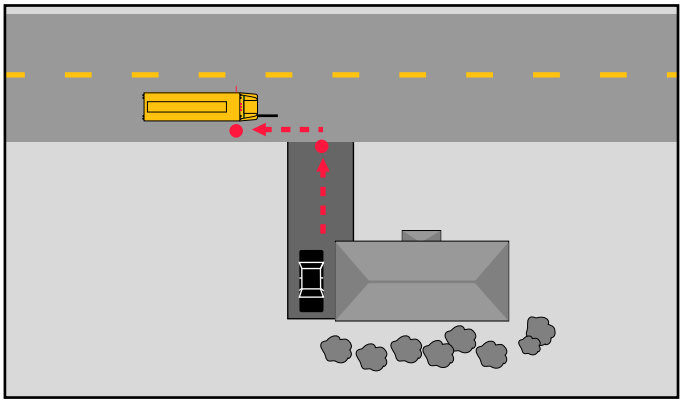
Passenger Stops

School Bus Stop Law

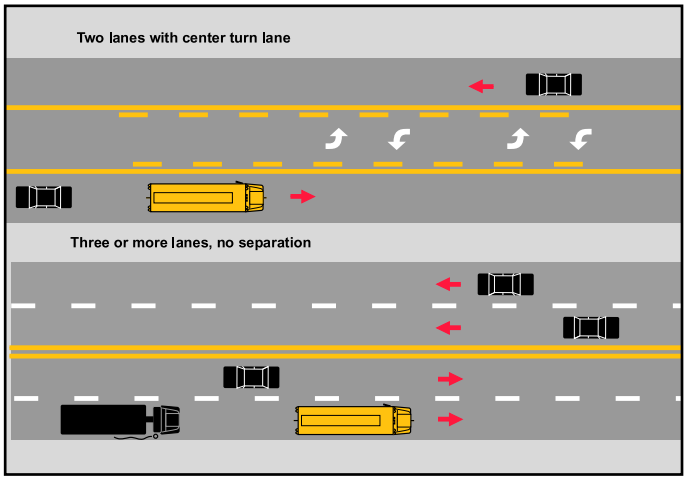
DMV collision reports show that some of the most serious school bus collisions occur while passengers are loading and unloading. Always use great care any time passengers are outside the bus. *The NC School Bus Stop Law (GS 20-217)* exists to protect children at school bus passenger stops and to enhance traffic safety. Each procedure detailed by the law is designed to minimize the dangers. The school bus stop law names specific instances when an approaching motor vehicle is required to stop for a properly marked, designated school bus:

- "When a school bus is displaying its mechanical stop signal or flashing red lights and the bus is stopped for the purpose of receiving or discharging passengers, the driver of any other vehicle that approaches the school bus from any direction on the same street, highway or public vehicular area shall bring the other vehicle to a full stop and remain stopped. The driver of the other vehicle shall not proceed to move, pass or attempt to pass the school bus until the mechanical stop signal has been withdrawn, the flashing red lights have been turned off and the bus has started to move."

- "For the purpose of this section, a school bus includes a public school bus transporting children or school personnel, a public school bus transporting senior citizens under G.S. 115C-243, or a privately owned bus transporting children. This section only applies in the event that the school bus bears upon the front and rear a plainly visible sign containing the words "school bus"."



All traffic in both directions must stop.

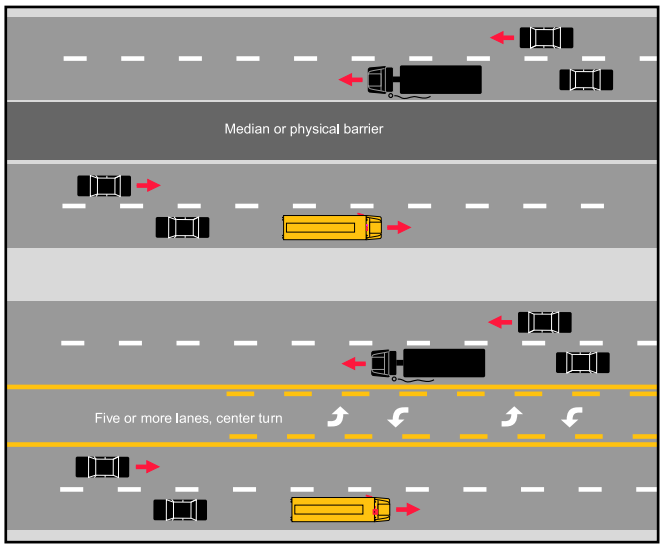


All traffic in both directions must stop.

- The driver of a vehicle traveling in the opposite direction from the school bus, upon any road, highway or city street that has been divided into two roadways, so constructed as to separate vehicular traffic between the two roadways by an intervening space (including a center lane for left turns if the roadway consists of at least four more lanes) or by a physical barrier, need not stop upon meeting and passing any school bus which has stopped in the roadway across such dividing space or physical barrier. Only traffic travelling in the same direction as the bus must stop.

- It shall be unlawful for any school bus driver to stop and receive or discharge passengers or for any principal or superintendent of any school, routing a school bus, to authorize the driver of any school bus to stop and receive or discharge passengers upon any roadway described in the preceding paragraph where passengers would be required to cross the roadway to reach their destination or to board the bus. Passengers may be discharged or received at points where pedestrians and vehicular traffic are controlled by adequate stop-and-go traffic signals.

- Any person who violates this section shall be guilty of a Class I misdemeanor except that any person who violates this section and willfully strikes any person causing serious bodily injury to that person shall be guilty of a Class I felony.



Traffic moving in the opposite direction need not stop.

If the stop sign, any stop sign light, any warning light or any passenger stop light on the school bus is malfunctioning, do not make passenger stops. Have it repaired before continuing. You must activate the stop sign, warning lights and passenger stop lights only at passenger stops for loading and unloading passengers from the bus you are driving. Improper use of the stop system could cause collisions, injuries and even fatalities.

If someone passes the school bus while you are loading or unloading passengers, gather as much information about the driver as you can. The ability to identify the driver visually is always best. Try to estimate and note the driver's age, gender and skin tone as well as the license plate number of the vehicle. It is crucial also to note the date, time of day and location of the incident. Additional information such as the color and make of the vehicle can also be helpful.

Violation of the school bus stop law carries the penalty of more driver license points than any other driving violation in North Carolina. Five points are assessed if the violation occurred in a classified vehicle and eight if committed with a commercial motor vehicle (CMV) (GS 20-16c). Drivers who violate this law greatly endanger the lives of school bus passengers. Do your part to have these dangerous drivers convicted. Report their actions to school transportation officials, who will assist you in making a report to the proper law enforcement agency.

Passenger Stops – General Observations

- Passenger stops should be made in safe places only. Motorists approaching from both directions should have a clear view of the bus for a distance of at least 500 feet, if possible. Stops should not be made just below the crest of a hill, on a blind curve or on a steep grade. Stops should be spaced at least two-tenths of a mile apart. Although the principal is charged with setting routes and stops, the driver should report any problem at a stop to school transportation officials.
- Stop the bus on the main portion of the road in the extreme right-hand lane 15 feet short of the passengers. Never pull to the shoulder of the road to make a passenger stop.
- Have passengers wait until the stop sign is out and the door is open before crossing the road.
- Never argue with parents at a passenger stop. Refer them to school transportation officials for any request of change of stop, route or schedule and for discipline problems. Inform them of any developments affecting the operation of the school bus, such as change of schedule and days when the bus may be late. Good communication between the parents and you will develop close harmony and make it possible for you to perform your duties more efficiently and safely.
- Never let a discipline problem on the bus or any other distraction interfere with checking your passenger mirrors just before leaving a passenger stop.
- If you pass by a passenger stop, do not back up to pick up or discharge students

Passenger Stop Procedure

- Check traffic (front and rear).
- Activate amber warning lights 300 feet in advance of the passenger stop.
- Make a smooth stop 15 feet short of passengers.
- Keep firm pressure on foot brake.
- Check traffic (front and rear).
- Open door (when safe).
- Count, watch and recount students (loading and unloading, outside and inside).
- Close door (when students are in a safe area).
- Check all mirrors from left to right for students and traffic.
- Proceed slowly while checking for students.

Do not release the stop sign until all students are either on the bus or well off the road on their side of the street or highway. Always check to ensure no one is in front of the bus by counting the passengers as they load/unload and counting them again when they are safely on the bus or off the roadway on each side. If both totals are not the same, account for each missing child. Do not move the bus until you get out and check around and under the bus. When children who are six years old or younger must cross the road in front of the bus, there is a great potential for a fatality. The walking control arm is designed to force passengers to cross in front of the bus at a distance from the hood where they will be easier for you to see them. The passenger mirrors are used to locate students who cannot be seen over the hood or at the sides of the bus before proceeding. Check the passenger mirrors closely. Frequent use of the passenger mirrors at each passenger stop cannot be overemphasized. Ensure that students are seated before moving the bus.

Loading the School Bus

You should assist in proper loading and see that pupils take their assigned seats. The seemingly simple operation of loading and seating passengers at stops is not as simple as some may believe. You and your supervisor should work together in assigning seats to students for several reasons:

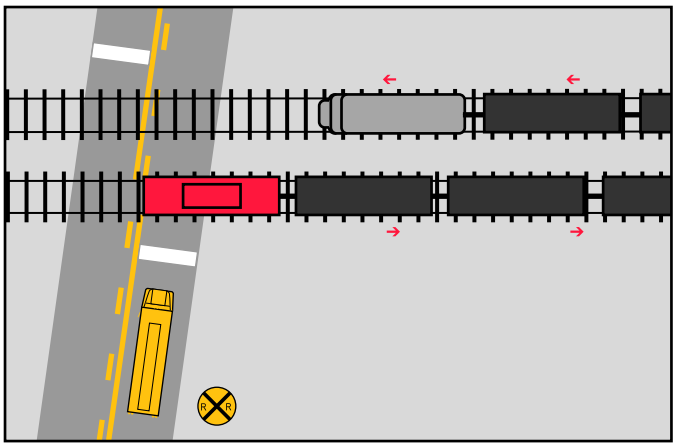
- Speeds up loading and unloading along the bus route.
- Lessens confusion and delay over what seat to take.
- Allows equal weight distribution on each side of bus.
- Helps you maintain better discipline and pupil relations.
- Aids in determining who may have damaged or defaced seats, windows, etc.

Railroad Crossings

Requirement to Stop

School buses (and school activity buses) must stop at all railroad crossings (GS 20-142.3). Tragic collisions involving school buses have occurred at railroad grade crossings. Bus drivers and passengers should follow proper procedures at all times when crossing tracks.

- Check traffic and turn on hazard lights about 300 feet before the crossing.
- Stop at least 15 feet, but not more than 50 feet from the track.
- Turn off any accessories that prevent good hearing, open the window and door, look and listen.
- Close door, recheck track(s), proceed if safe.
- After crossing tracks, turn off hazard lights, close window.



Federal law requires that school buses, and activity buses must stop at all railroad crossings within 50 feet of the nearest rail but no closer than 15 feet.

Additional Safe Driving Tips

- If you see or hear a train approaching or the lights are flashing and/or the crossing gates are down, do not cross the tracks. Shift to neutral, set the parking brake and keep firm pressure on the foot brake.
- Look carefully in both directions, especially at double tracks. One train might hide another.
- Never drive onto a track until you can drive all the way across.
- Accelerate enough so that the bus does not stall on the tracks.
- Never stop the bus on the track for any reason.
- When turning near a track, use a turn signal instead of the hazard lights. If unable to turn, stop for the tracks and clear the intersection, stop and check for a train before turning.

Every situation cannot be discussed in this handbook. You should study the following examples and consider other situations that might arise. By considering problems and possible solutions before they actually occur, you may be better prepared to take the correct action quickly.

Example: A school bus stalls on a railroad crossing. No train appears to be coming. Remain calm and try to start the bus to drive it off the track. When two attempts to start the bus fail, have all the passengers evacuate the bus using the front door. Have a responsible passenger lead the other passengers to a safe place away from the bus and take charge of them there. Notify school transportation officials of the problem and provide them with the phone number, crossing ID number and mile post locator number which should be on a placard affixed to the crossbuck post. Taking every precaution, attempt again to move the bus off the tracks. By keeping a constant and careful watch for any approaching train, you can leave yourself ample time to evacuate the bus before it is hit. A bus mechanic should thoroughly check the bus and make necessary repairs so that the bus will not stall again.

Example: If a train is approaching, do not delay. Evacuate the bus immediately, using both front and rear exits using the emergency evacuation procedures outlined in chapter six.

Parking the Bus

Care should be taken to park the bus in a safe designated area not open to vandalism. In parking the bus:

- Use the designated area.
- Shut the bus down.
    - Shift to neutral.
    - Set the parking brake.
    - Turn off all equipment switches.
    - Turn off ignition.
    - Reduce air pressure until button pop-out.
- Close all windows, roof hatches and doors.
- Walk the aisle to check the interior for any damage or items left on the bus and to check for passengers.
- Sweep the interior of the bus.
- Use chock blocks, if provided.
- Report equipment defects, any hazardous conditions observed along the bus route, damage or items or passengers left on the bus to school transportation officials.

TEST YOUR KNOWLEDGE

1. What is the basic speed law?

2. Must school buses or school activity buses stop at every railway grade crossing?

3. What is the purpose of the walking control arm and the passenger mirrors?

4. When does a bus driver load passengers at a turn around point?

Multiple Choice Questions

1. What is the maximum speed limit for a school bus?
   a) 25 mph;
   b) 35 mph;
   c) 45 mph;
   d) 55 mph.

2. How far from the nearest rail of a railway grade crossing must a driver stop the school bus?
   a) 15 feet;
   b) 20 feet;
   c) 10 feet;
   d) 30 feet.

3. Which of the following conditions must exist for a motorist to be in violation of the school bus stop law?
   a) the bus is displaying its mechanical stop signal or flashing red stop lights;
   b) the bus is stopped for the purpose of receiving or discharging passengers;
   c) displays a plainly visible “school bus” sign;
   d) all of the above.

4. Which of these is not a procedure for parking the school bus?
   a) release the parking brake;
   b) turn off all equipment switches;
   c) check interior for students, damage and items left;
   d) close windows and roof hatches.

CHAPTER FIVE: *Defensive Driving*

Defensive driving is driving to save lives, time and money in spite of the conditions around you and the actions of others.

There are six adverse driving conditions that can lead to collisions – light, weather, road, traffic, vehicle and driver.

Light Conditions

Light problems are the result of either too much or too little light. When the sun is low on the horizon in the early morning or late afternoon, it can shine directly into your eyes, making it difficult to see. When it's hard to see, (i.e., at dawn or dusk), you need to make it easier for the bus to be seen. If you are having trouble seeing other vehicles, other drivers will have trouble seeing you. Turn on your low beam headlights. High beams can bother people in the daytime as well as at night. Do not drive with parking lights on. You must cut down on the amount of light where there is too much and add light where there is too little. Because it is difficult to see for any distance in either case, slow down so that you can stop within the area that you can see.

Night Driving

You are at greater risk when you drive at night. Drivers can't see hazards as quickly as in daylight so they have less time to respond. Drivers caught by surprise are less able to avoid a crash. The problems of night driving involve several factors. Here are some of these factors.

- People can't see as well at night or in dim light. Also, their eyes need time to adjust to dim light.
- Drivers can be blinded for a short time by bright light. It takes time to recover from this blindness. Most people have been temporarily blinded by camera flashes or by the high beams of an oncoming vehicle. It can take several seconds to recover from glare. Even two seconds of glare blindness can be dangerous. A vehicle going 55 mph will travel more than half the distance of a football field during that time. Don't look directly at bright lights when driving. Look at the right side of the road and reduce your speed.
- Anything without lights is hard to see. Many collisions at night involve pedestrians, joggers, bicyclists and animals.

Vehicle Factors

At night, your headlights will usually be the main source of light for you to see and for others to see you. You can't see nearly as much with your headlights as you can see in the daytime. With low beams you can see ahead about 250 feet and with high beams about 350-500 feet. Adjust your speed to keep your stopping distance within your sight distance. This means going slow enough to be able to stop within the range of your headlights; otherwise, by the time you see a hazard, you will not have time to stop.

Use high beams when you can. Some drivers make the mistake of always using low beams. This seriously cuts down on their ability to see ahead. Use high beams when it is safe and legal to do so. Use them when you are not within 500 feet of an approaching vehicle. Don't let the inside of your bus get too bright. This makes it harder to see outside. Keep the interior lights off and adjust your instrument lights as low as you can and still be able to read the gauges. Don't wear sunglasses while driving at night.

Night driving can be more dangerous if you have problems with your headlights. Dirty headlights will give less light than they should. This cuts down your ability to see and makes it harder for others to see you. Ensure your lights are clean and working. Headlights can be out of adjustment. If they don't shine in the right direction, they don't give you a good view and can blind other drivers. Have a bus mechanic make sure they are adjusted properly.

Weather Conditions

During the course of a school year, you will encounter bad weather conditions such as ice, snow, rain and fog. These conditions affect your ability to see and be seen. They also make the road slippery, reducing your ability to start, stop and turn. Poor driving conditions demand alertness and skillful driving. Basic rules to follow in difficult weather conditions and when visibility is poor are to reduce speed, increase following distance and use windshield wipers, defrosters and low beam headlights.

Slippery Surfaces

It will take longer to stop and it will be harder to turn without skidding when the road is slippery. You must drive slower to be able to stop in the same distance as on a dry road. Wet roads can double stopping distance. Reduce speed by about one-third. On packed snow, reduce your speed by about one-half. On ice reduce your speed to a crawl and stop driving as soon as you can safely do so or if conditions become too dangerous.

Just After Rain Begins. Right after it starts to rain, the water mixes with oil left on the road by vehicles. This makes the road very slippery and very dangerous. If the rain continues, it will wash the oil away.

Hydroplaning. In adverse weather, water or slush collects on the road. Your vehicle can hydroplane. It's like water skiing. The tires lift off the road onto a film of water and have little or no traction. You may not be able to steer or brake. You may regain control by releasing the accelerator. This will slow your vehicle and let the wheels turn freely. If the vehicle is hydroplaning, do not use the brakes to slow down. It does not take a lot of water to cause hydroplaning. It can occur at speeds as low as 30 mph if there is enough water. Hydroplaning is more likely if tire pressure is low or the tread is worn. (The grooves in a tire carry away the water. If they aren't deep, they don't work well.)

Ice

- **Shady areas** of the road will remain icy and slippery long after open areas have melted.
- **Bridges and overpasses** will freeze before the road will. Be especially careful when the temperature is close to 32˚ F or lower.
- **Wet ice** - Slight melting will make ice wet. Wet ice is much more slippery (and dangerous) than ice that is not.
- **Black ice** is a thin layer that is clear enough that you can see the road underneath it. It makes the road look wet. Anytime the temperature is below freezing and the road looks wet, watch out for black ice.
- **Vehicle icing** - An easy way to check for ice is to open the window and feel the front of the mirror, mirror support or antenna. If there's ice on these, the road surface is probably starting to ice up.

Driving Defensively on Slippery Surfaces

Start Gently and Slowly. When first starting, get the feel of the road. Don't hurry. If the drive wheels begin to spin, take your foot off the accelerator.

Adjust Turning and Braking to Conditions. Make turns as gentle as possible. Take curves and turns at slower speeds and avoid braking. Don't brake any harder than necessary.

Adjust Speed to Conditions. Don't pass slower vehicles unless necessary. Go slow and watch far enough ahead to keep a steady speed. Avoid having to slow down and speed up. Slow down more as the temperature rises to the point where ice begins to melt.

Adjust Space to Conditions. Don't drive alongside other vehicles. Keep a longer following distance. When you see a hazard ahead, slow down or stop to wait for it to clear. Anticipate stops early and slow down gradually.

Wet Brakes

When driving in heavy rain or standing water, your brakes will get wet. Water in the brakes can cause the brakes to be weak, to apply unevenly or to grab. This can cause lack of braking power, wheel lockups, uneven steering or pulling to one side. Avoid driving through deep water and never drive through flowing water. If you must drive through water:

- **Slow down**. Place transmission in a lower gear.
- **Gently put on the brakes.** This presses linings against brake drums or discs and keeps mud, silt, sand and water from getting in.
- **Increase engine RPM** and cross the water while keeping light pressure on the brakes.

When out of the water, maintain light pressure on the brakes for a short distance to heat them up and dry them out. Make a test stop when safe to do so. Check behind to make sure no one is following, then apply the brakes to be sure they work properly. If not, dry out further as described above. Do not apply too much brake and accelerator pressure at the same time or you can overheat the brakes.

Winter Driving Vehicle Checks

Make sure your vehicle is ready before driving in winter weather. Do a regular pre-trip inspection, paying extra attention to the following items:

- Defrosting and heating equipment
- Wipers and washers
- Tires
- Lights and reflectors
- Hand holds, steps and foot holds
- Windows and mirrors
- Exhaust system

Hot Weather Driving Vehicle Checks

Do a normal pre-trip inspection, but pay special attention to the following items:

- Tires
- Engine oil
- Engine coolant.

Road Conditions

Some roads you will travel may be broad, modern, paved roads with wide bridges, while others may be narrow, winding, dirt roads and some with one-lane bridges. You cannot drive the same way on all kinds of roads. Adjust your speed to fit the road. If in doubt, lower your speed.

Running off the Pavement

If you run off the pavement onto the shoulder, do not try to turn back onto the pavement immediately. Release accelerator cautiously, reducing the speed of the bus gradually. Avoid braking. Check traffic in both directions and drive back onto the roadway at a safe place when traffic is clear.

During an extended rainy period, road shoulders become soft. The weight of the school bus will cause the wheels to sink into the shoulder and, once stuck, the bus becomes difficult or impossible to steer or control. You should not attempt to continue because you can lose control completely and have a serious collision such as sliding into the ditch and tipping over.

Skid Control and Recovery

Skids happen whenever the tires lose their grip on the road. Grip is lost in one of four ways:

- **Over-braking.** Braking hard and locking the wheels.
- **Over-steering.** Turning the wheels more sharply than the vehicle can turn.
- **Over-acceleration.** Supplying too much power to the drive wheels, making them spin.
- **Driving Too Fast.** Most serious skids result from driving too fast for road conditions.

Drive Wheel Skids. By far, the most common skid is one in which the rear wheels lose traction through excessive braking or acceleration. Skids caused by acceleration usually happen on ice or snow. Taking your foot off the accelerator can easily stop them. Rear wheel braking skids occur when the rear wheels lock. Because locked wheels have less traction than rolling wheels, the vehicle will slide sideways in a spin out. Do the following to correct a drive wheel braking skid:

- Stop Braking. This will let the rear wheels roll again and keep the rear wheels from sliding any farther.
- Turn Quickly. If your bus begins to slide sideways, quickly steer in the direction you want the vehicle to go down the road. You must turn the wheel quickly.
- Counter-steer. As your bus turns back on course, it has a tendency to keep right on turning. Unless you turn the steering wheel quickly the other way, you may find yourself skidding in the opposite direction.

Front Wheel Skids. Driving too fast for conditions causes most front wheel skids. Other causes include lack of tread on the front tires. In a front wheel skid, the front end tends to go in a straight line regardless of how much you turn the steering wheel. You lose steering control when your front wheels are not rolling. On a very slippery surface, you may not be able to steer around a curve or turn. When a front-wheel skid occurs, the only way to stop the skid is to let the vehicle slow down. Stop turning and/or braking so hard. Slow down as quickly as possible without skidding.

Speed and Curves. Slow to a safe speed before you enter a curve. Do not exceed the posted speed limit for the curve. If you take a curve too fast, two things can happen. The wheels can lose their traction and continue straight ahead, so you skid off the road or the wheels may keep their traction and the vehicle rolls over. A school bus is top-heavy and easier to turn over than a smaller, lower vehicle. Dirt roads are more likely to cause a skid than paved roads. Slow down and stay to the right.

Space to the Sides

School buses are eight feet wide and have mirrors that stick out beyond that. Buses may take up an entire lane. Safe drivers will manage what little space they have. You can do this by keeping your bus centered in your lane and avoiding driving next to others. There are two dangers in driving next to other vehicles. They may change lanes suddenly and turn into you or you may be trapped when you need to change lanes. Find an open spot where you aren't near other traffic. When traffic is heavy, it may be hard to find an open spot. If you must travel near other vehicles, keep as much space as possible between you and them. Also, drop back or pull forward so that you are sure they can see you.

Some roads can cause a vehicle to tilt. These can be a problem clearing objects along the edge of the road, such as signs, trees or utility poles. Where this is a problem, drive a little closer to the center of the road.

Space Overhead

Hitting overhead objects is a danger. Most school buses are about 10 feet high. Make sure you always have overhead clearance. Don't assume that the heights posted at bridges and overpasses are correct. Repaving or packed snow may have reduced the clearances since the heights were posted. If you doubt you have safe space to pass under an object, take another route. Warnings are often posted on low bridges or underpasses.

Mountain Driving

In mountain driving, gravity plays a major role. If you have a heavy load, you will have to use lower gears and go slower to climb hills. In coming down steep hills, gravity will tend to speed you up. You must go slow enough that your brakes can hold you back without getting too hot. If the brakes become too hot, they won't work properly.

Using lower gears will help you keep from going too fast. Lower gears allow engine compression and friction to help slow the vehicle. This is true whether you have an automatic transmission or a manual transmission. Be in the right gear before starting down the hill. With older vehicles, a rule for choosing gears is to use the same gear going down a hill that you would need to climb the hill. Newer vehicles have low friction parts and streamlined shapes for fuel economy. They may also have more powerful engines. This means they can go up hills in high gears and have less friction and air drag to hold them back going

down hills. For those reasons, drivers of modern vehicles may have to use lower gears going down a hill than would be required to go up the hill. Find out what is right for your vehicle

The right way to use your brakes for long downhill grades is to go slow enough that a fairly sparing use of the brakes will keep your speed from increasing. If you go slow enough, the brakes will be able to get rid of the heat and they won't get too hot. Forceful, intermittent braking (snubbing) is safer than light, continued braking.

Additionally, stay in the right lane of multi-lane highways and use hazard lights.

Therefore, select the right gear, go slow enough and use forceful, intermittent braking (snubbing).

Interstates and other Limited Access Highways

A school bus with its slow top speed is a safety hazard on high-speed, heavily traveled interstates and other limited access highways where the speed limit is more than 55 mph. School buses should not be routed over such highways except in unusual circumstances and after much deliberation. If the route includes driving on limited access highways, use hazard lights for the entire distance and stay in the right lane. Have the passengers occupy seats as near the front of the bus as possible so that a collision from the rear would pose less direct hazard to the passengers.

Bridges

Stop at drawbridges that do not have a signal light or traffic control attendant. Stop at least 50 feet before the draw before crossing. You do not need to stop, but you must slow down to 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.

Most bridges are built to withstand the weight of the traffic on them. Some older bridges may have posted weight limits to limit vehicle weight. If the weight of your bus exceeds the maximum weight limit for the bridge, do not attempt to cross it. It could fail, with disastrous results. Most newer school buses weigh about 14 tons (when loaded).

TEST YOUR KNOWLEDGE

1. In a front wheel skid, with the front wheels turned left, which way will the vehicle go?

2. What effects can wet brakes have on your bus?

3. What is hydroplaning?

4. What causes skids?

5. When should you use your low-beam headlights?

Multiple Choice Questions

1. Forceful intermittent braking is synonymous with:
   a) snubbing;
   b) feathering;
   c) fanning;
   d) stabbing.

2. What should you do when you run off the pavement?
   a) accelerate;
   b) return to the road immediately;
   c) use stab braking;
   d) none of the above.

3. If you have to drive through a deep puddle of water, what should you do to minimize braking problems?
   a) use stab braking;
   b) increase speed (above 30 mph) to prevent water getting in;
   c) use snubbing (forceful intermittent braking);
   d) lightly press and hold brake pedal while maintaining speed through the puddle.

4. The most slippery road surface is:
   a) wet (melting) ice;
   b) snow-covered gravel;
   c) rain-soaked pavement;
   d) none of the above.

Traffic Conditions

The school bus interferes with traffic because of its size, slow speed and frequent stops. Every care should be taken to route and dispatch buses so that as little disruption as possible is caused. The less traffic tied up behind the bus, the fewer drivers there will be to get irritated, careless and dangerous to you and your passengers. Once again, reduce speed and increase following distance when in heavy traffic.

Emergency Vehicles
(GS 20-157)

Law enforcement, fire department and rescue squad vehicles and ambulances are considered emergency vehicles when they sound a siren and display flashing lights. At the approach of an emergency vehicle from the front or rear, slow down, move to the right and stop. Remain stopped unless directed by a traffic officer or until the emergency vehicle has passed. If approaching from your front on a four-lane, limited access highway, you need not stop.

If you are at a passenger stop when an emergency vehicle approaches, do not panic. If your passengers are still in the roadway or along the side, complete the stop following normal procedures. If you are approaching the passenger stop and can let the emergency vehicle pass without endangering the safety of your passengers, let it pass.

When an emergency vehicle or public service vehicle is parked within 12 feet of a roadway and is giving a signal by appropriate light, you are required to:

- Move into a lane that is not the lane nearest the vehicle if the road has at least two lanes for traffic proceeding in the same direction as you are and travel in that lane until clear, as traffic allows.
- If only one lane travelling in your direction, slow down and maintain a safe speed, being prepared to stop until completely past the emergency vehicle.

First on the Scene of a Collision Involving Other Vehicles

If you are the first on the scene of a collision involving other vehicles, park in a safe place, keep the students on the bus and protect the scene (e.g., engage hazard lights). As soon as help arrives at the collision scene, continue your route.

Seeing Ahead

Importance of Looking Far Enough Ahead. Because stopping or changing lanes can take a lot of distance, knowing what the traffic is doing on all sides of you is very important. You need to look well ahead to make sure you have room to make these moves safely.

How Far Ahead to Look. Most good drivers look 12 to 15 seconds ahead. That means looking ahead the distance you will travel in 12 to 15 seconds. At lower speeds, that's about one block. At highway speeds, it's about a quarter of a mile. If you're not looking that far ahead, you may have to stop too quickly or make abrupt lane changes, creating a potential hazard. Looking 12 to 15 seconds ahead doesn't mean not paying attention to things that are closer. Good drivers shift their attention back and forth, near and far.

Traffic Mirrors. Check the traffic mirrors approximately every 5 - 8 seconds to know where other vehicles are around you and to see if they move into your blind spots. In an emergency, you may need to know if can make a quick lane change. Avoid focusing on mirrors too long as this may cause you to miss important things ahead. Convex mirrors make things look farther that they are. There are blind spots that your mirrors cannot show you.

Communicating Your Presence

Other drivers can't know what you are going to do until you tell them. You can tell them with the horn, headlights, brake lights, turn signals, warning lights and hazard lights.

Slowing Down. Warn drivers behind you by slowing down gradually. A few light taps on the brake pedal to flash the brake lights should warn following drivers. Use the hazard lights when you are driving very slow or are stopped. Warn other drivers in any of the following situations:

- **Trouble Ahead**. The size of your vehicle may make it hard for drivers behind you to see hazards ahead. If you see a hazard that will require slowing down, warn the drivers behind by flashing your brake lights.
- **Tight Turns.** Most drivers don't know how slow you must go to make a tight turn. Warn drivers behind you by braking early and slowing gradually.
- **Stopping on the Roadway**. Give people a chance to see that you are stopping. Don't stop suddenly.

Avoid Directing Traffic. Some drivers try to help out others by signaling when it is safe to pass. You should not do this. You could cause an accident. You could be blamed and it could cost you thousands of dollars.

When Parked at the Side of the Road. When you pull off the road and stop, such as with a breakdown, turn on the hazard lights immediately. This is important at night. Don't trust the taillights to give warning. Drivers have crashed into the rear of a parked vehicle because they thought it was moving normally. Never use the passenger stop light system for any reason other than passenger stops.

Use Your Horn When Needed. Your horn can let others know you're there. It can help to avoid a crash; however, it can startle others and could be dangerous when used unnecessarily.

TEST YOUR KNOWLEDGE

1. What should you do if an emergency vehicle with siren and lights activated approaches?

2. What is the best way to see to the sides and rear of your school bus?

3. What should you do if you are the first person to arrive at the scene of a collision?

Multiple Choice Questions

1. How far ahead should you look while driving?
   a) 6 - 8 seconds;
   b) 12 - 15 seconds;
   c) 18 - 20 seconds;
   d) as far ahead as you can see.

2. How often should you check your mirrors?
   a) before each trip;
   b) every 5 - 8 seconds;
   c) every 12 - 15 seconds;
   d) both a and b.

3. If you must park your bus by the side of the road:

   a) open the rear door;
   b) turn on your passenger stop lights;
   c) turn on your hazard lights;
   d) post students on road to warn motorists.

Importance of Seeing Hazards

What Is a Hazard? A hazard is anyone or anything that may cause an unsafe condition. For example, a car in front of you heads towards the freeway exit, its brake lights come on and the driver begins braking hard. This could mean that the driver is uncertain about taking the off ramp and might suddenly return to the highway. If the car cuts in front of you, it is no longer just a hazard. It is an emergency.

Noticing Hazards Reduces Dangers. You will have more time to act if you see hazards before they become emergencies. In the example, you might make a lane change or slow down to prevent a crash if the car suddenly cuts in front of you. Seeing this hazard gives you time to check your mirrors and signal a lane change. Being prepared reduces the danger. A driver who did not see the hazard until the slow car pulled back on the highway would have to do something very suddenly. Sudden braking or a quick lane change is much more likely to lead to a crash.

Learning to Notice Hazards. Clues will help you see hazards. The more you drive, the better you can get at noticing hazards.

Impaired Drivers. One major hazard is an impaired driver—one who is sleepy, has had too much to drink, is on drugs or is ill. Some clues to these drivers are:

- Weaving across the road or drifting from one side to another.
- Leaving the road (dropping right wheels onto the shoulder or bumping across a curb in a turn).
- Stopping at the wrong time (stopping at a green light or waiting for too long at a stop).
- Driving with an open window in cold weather.
- Speeding up or slowing down suddenly or driving too fast or too slow.

Steering To Avoid A Crash

Don't Stop. Stopping is not always the safest thing to do in an emergency. When you don't have enough room to stop, you may have to steer away from what's ahead. Remember, in many cases you can turn to miss an obstacle more quickly than you can stop. Top heavy vehicles such as school buses may turn over.

- **Keep Both Hands on the Steering Wheel.** To turn quickly you must have a firm grip on the steering wheel with both hands. The best way to have both hands on the wheel in the event of an emergency is to keep them there all the time.
- **Where to Steer.** If an oncoming driver has drifted into your lane, moving to your right is best. If that driver realizes what has happened, the natural response will be to return to his own lane. If something is blocking your path, the best direction to steer will depend on the situation.
  - If you have been using your mirrors, you'll know which lane is available.

- If the shoulder is clear, going right may be best. No one is likely to be driving on the shoulder but someone may be passing you on the left. Checking mirrors is very important.
- If you are blocked on both sides, a move to the right may still be the best option. At least you won't force anyone into an opposing traffic lane and a possible head-on collision.

Leaving the Road. In some emergencies, you may have to drive off the road. It may be less risky than facing a collision with another vehicle. Most shoulders are strong enough to support the weight of a large vehicle and, therefore, offer an available escape route. Here are some guidelines to follow if you do leave the road:

- **Avoid Braking.** If possible, avoid using the brakes until your speed has dropped to about 20 mph. Then brake very gently to avoid skidding on a loose surface.
- **Keep One Set of Wheels on Pavement if Possible.** This helps to maintain control.
- **Stay on the Shoulder.** If the shoulder is clear, stay on it until your vehicle has come to a stop. Signal and check your mirrors before pulling back onto the road.

Returning to the Road. If you are forced to return to the road before you can stop, use the following procedure:

- Hold the wheel tightly and reduce speed.
- Return to the road once you have control of the bus.
- When both front tires are on the paved surface, counter-steer immediately. The two turns should be made as a single steer/counter-steer move.

Passing

School buses are unusually slow. Avoid passing other vehicles as much as possible. If you must pass a vehicle, use extreme caution. You will usually gain very little or nothing at all by passing because any vehicle moving more slowly than a school bus is not likely to go very far before turning off. You should never pass another school bus unless it is parked. At a multi-lane highway intersection where traffic lanes are designated for left and/or right turns, a bus may pass another bus that is waiting to make such a turn. You are much more likely to have trouble with other vehicles passing you. Maintain a regular check of traffic and signal your intentions early.

TEST YOUR KNOWLEDGE

1. Is stopping always the safest thing to do in an emergency? Why or why not?

2. What actions indicate an impaired driver?

Multiple Choice Questions

1. Where is it illegal to pass?
   a) hills;
   b) intersections;
   c) railroad crossings;
   d) all of the above

2. If you are meeting a vehicle near the center line, you should:
   a) ride to the right;
   b) reduce your speed;
   c) ride off the road if necessary;
   d) all of the above.

Vehicle Condition

The transportation director and mechanics of your county school bus garage are dedicated to keeping your bus in good running order so that it is safe to carry school children. They work year round for our benefit.

You must check your bus before each trip to make sure that it is safe to drive. If for any reason you feel that it is not safe to drive the bus, do not drive it. Report the problem and have it repaired. Washing the windshield, windows, headlights and reflectors are safety precautions as well as necessary practices in good care of equipment. Keeping the interior clean by sweeping, dusting and keeping the aisle free of obstructions promotes safe operation, good passenger discipline and a better overall atmosphere. Decals or other objects should not obstruct the windows of the bus.

Tire Failure

There are four important steps that drivers should take to handle a tire failure safely:

- **Recognize Tire Failure.** Quickly knowing you have a tire failure gives you more time to react. Having just a few seconds to remember what it is you're supposed to do can help you. The major signs of tire failure are:
  - **Sound.** The loud bang of a blowout is easily recognized. Because it can take a few seconds for the bus to show signs of tire failure, you might think it was some other vehicle. Any time you hear a tire blow, assume it was yours.
  - **Vibration.** If the vehicle thumps or vibrates heavily, it may be a sign that one of the tires has gone flat. With a rear tire, that may be the only sign you get.
  - **Steering.** If the steering feels heavy, it is probably a sign that one of the front tires has failed. Sometimes, failure of a rear tire will cause the vehicle to slide back and forth or fishtail. The dual rear tires usually prevent this.
- **Hold the Steering Wheel Firmly.** If a front tire blows out, it can twist the steering wheel out of your hand. The only way to prevent this is to keep a firm grip on the steering wheel with both hands at all times.
- **Stay Off the Brake.** It's natural to want to brake in an emergency. Braking when a tire has failed could cause loss of control. Unless you're about to run into something, stay off the brake until the bus has slowed down, brake very gently, pull off the road and stop.
- **Check the Tires.** After you've come to a stop, get out and check all the tires. Do this even if the vehicle seems to be handling all right. If one of your dual tires fails, the only way you may know it is by getting out and looking at it.

Brake Failure

Brakes kept in good condition rarely fail. If there is any indication of brake failure, stop the bus as soon as you can.

- **Air Brakes.** Do not pump air brakes. Pumping air brakes will cause air pressure loss and a loss of braking.
- **Hydraulic Brakes.** Most hydraulic brake failures occur due to loss of hydraulic pressure. When the system won't build up pressure, the brake pedal will feel spongy or go to the floor. Sometimes pumping the brakes will create enough hydraulic pressure to stop.

If you have a brake failure:

- **Downshift.** Shift to a lower gear to slow the bus.
- **Use the Parking Brake (Hydraulic Brakes Only).** On a hydraulic brake bus, the parking brake is separate from the hydraulic brake system. It can be used to slow the bus if the hydraulic system fails. Be sure to press the release button while you pull the parking brake lever so you can adjust the brake pressure and keep the wheels from locking up.
- **Find An Escape Route.** While slowing the vehicle, look for an escape route - an open field, side street or escape ramp. Turning uphill is a good way to slow and stop the vehicle. Make sure the bus does not start rolling backward after you stop. Put it in low gear, apply the parking brake and, if necessary, roll back into some obstacle that will stop the vehicle.

Brake Failure on Downgrades. Going slow enough and braking properly will almost always prevent brake failure on long downgrades. Once the brakes have failed, your best prospect is an escape ramp. If there is one, there will be signs telling you about it. Use it. Ramps are usually located a few miles from the top of the downgrade. Every year, hundreds of drivers avoid injury to themselves or damage to their vehicles by using escape ramps. Some escape ramps use soft gravel that resists the movement of the vehicle and brings it to a stop. Others turn uphill, using the hill to stop the vehicle and soft gravel to hold it in place. If no escape ramp is available, take the least hazardous escape route you can, such as an open field or a side road that flattens out or turns uphill. Make the move as soon as you know your brakes don't work. The longer you wait, the faster the vehicle will go and the harder it will be to stop.

Vehicle Abuse

Do not abuse your bus. Vehicle abuse leads to breakdowns. Breakdowns are very rare when drivers operate their bus smoothly and carefully and report problems when they are still minor. You should not attempt to make any repairs to the school bus or allow any other person to do so. Only personnel authorized by the school bus garage may work on the school bus. Never use the bus to push or pull any vehicle. In the event the bus is stalled, stuck or in a ditch, do not allow anyone to pull or push the bus without first obtaining permission from the transportation supervisor. Exception will be made for stalling on a railroad track.

Breakdown Procedure

- Stop the bus.
- Turn on hazard lights.
- Keep students in the bus.
- Remain with bus.
- Notify bus garage.

TEST YOUR KNOWLEDGE

1. What should you do if a tire blows out?

2. How do you recognize tire failure?

Multiple Choice Questions

1. What should the driver do in the event of a breakdown?
   a) remain with the bus and activate hazard lights;
   b) let children off the bus;
   c) contact the school bus garage;
   d) both a & c.

2. What information should you give to the school bus garage in the event of a breakdown?
   a) your name and bus number;
   b) location of the bus;
   c) nature of the problem;
   d) all of the above.

3. In case of brake failure with an air brake bus
   a) pump the brake pedal to build up pressure;
   b) turn off the ignition key;
   c) energize the slack adjusters, if you have time;
   d) shift the transmission to a lower gear.

4. Allowing someone other than bus garage personnel to push or tow your bus in the event of a breakdown
   a) is never allowed;
   b) is allowed if the bus is stalled on railroad tracks;
   c) is allowed if the towing vehicle is certified;
   d) both a and c.

Driver Condition

More than any other factor, the condition of the driver determines the safety of the passengers. One study showed that about 95 percent of all collisions are caused by driver error. You must be mentally and physically prepared to drive every minute of every trip. Your general attitude toward your driving will affect your safety record. Some temporary conditions such as anger, worry or fear can take your mind off the road. A tendency to daydream can be just as dangerous because driving is a full-time job that requires concentration at all times.

Alcohol and drugs affect you and make you unfit to drive. Illness, exhaustion or weariness from hard work or lack of sleep also can rob you of the extra edge of alertness that is necessary for greatest safety in driving.

If you feel that you are not able to operate the school bus safely, inform school transportation officials.

Alcohol and Driving

Driving under the influence of alcohol is a serious violation of state law. People who drive under the influence are involved in traffic collisions resulting in over 20,000 deaths every year.

What is a Drink? It is the alcohol in drinks that affects human performance. It makes no difference whether alcohol comes from beer, wine or liquor. All of these drinks contain the same amount of alcohol:
- A 12-ounce glass of 5% beer.
- A 5-ounce glass of 12% wine.
- A 1-ounce shot of 80 proof liquor.

How Does Alcohol Work? Alcohol goes directly from the stomach into the blood stream. You can control the amount of alcohol consumed but not how fast your body gets rid of it. If you drink faster than your body can rid itself of alcohol, your driving will be affected. The amount of alcohol in your body is commonly measured by the Blood Alcohol Concentration (BAC). Only time will sober a driver. Coffee and fresh air will only make a wide-awake drunk.

What Determines Blood Alcohol Concentration? BAC is determined by the amount of alcohol you drink (more alcohol means higher BAC), how fast you drink (faster drinking means higher BAC) and your weight (a small person doesn't have to drink as much to reach the same BAC). Remember that a BAC of 0.04 or greater percent will cost you your CDL.

As a school bus driver,
no amount of alcohol is tolerated.

How Does Alcohol Affect the Brain and Body? Alcohol affects the brain as BAC builds up. The first part of the brain affected controls judgment and self-control. Consequently, drinkers may be fooled about the serious effect alcohol is having on them. Good judgment and self-control are absolutely necessary for safe driving. As blood alcohol concentration continues to increase, the effects increase and it will take longer to sober up. Muscle control, vision and coordination will be affected. A person will eventually pass out.

How Does Alcohol Affect Driving? All drivers are affected by drinking alcohol. Alcohol affects judgment, vision, coordination and reaction time. These effects mean increased chances of a crash and chances of losing your driver's license. Collision statistics show that the chance of a crash is much greater for drivers who have been drinking than for drivers who have not. Alcohol causes serious driving errors, such as:

- Increased reaction time to hazards.
- Driving too fast or too slow.
- Driving in the wrong lane.
- Running over the curb.
- Weaving.
- Straddling lanes.
- Quick, jerky starts.
- Not signaling, failure to use lights.
- Running stop signs and red lights.
- Improper passing.

Other Drugs

Besides alcohol, other legal and illegal drugs are being used more often. Laws prohibit possession or use of many drugs while on duty. They prohibit any controlled substance, amphetamines such as "pep pills" and "bennies", narcotics or any other substance that can make you unsafe. Drugs could include a variety of prescription and over-the-counter drugs (e.g., cold medicines) that may make you drowsy or otherwise affect safe driving ability. Possession and use of a drug given by a doctor is permitted if the doctor informs you that it will not affect safe driving ability.

Pay attention to warning labels of legitimate drugs and medicines and to doctor's orders regarding possible effects. Stay away from illegal drugs. Don't use any drug that hides fatigue. The only cure for fatigue is rest. Alcohol can worsen the effects of other drugs. The safest rule is not to mix drugs with driving at all.

Use of drugs can lead to traffic collisions resulting in death, injury and property damage. Drug abuse can lead to arrest, fines and jail sentences. Drug use can also mean the end of your driving privileges.

Illness

Once in a while, you may become so ill that you cannot operate a motor vehicle safely. If this happens, you must not drive. In case of an emergency you may drive to the nearest place where you can safely stop.

Condition Combinations

The six conditions (light, weather, road, traffic, vehicle and driver) are not usually all adverse at the same time. They come at the driver in groups. Weather conditions affect the amount of light available and the condition of the road. Light, especially too much light, can irritate a driver. Traffic conditions can do the same. Weather can affect traffic, slowing it down and making it more congested. Weather can affect vehicles as well, with the possibility of overheating in summer or having brittle metal break in winter. If it snows and the school bus has no chains, the vehicle is certainly not safe for many roads.

Drivers who adjusts their speed to adverse conditions, inspect the bus, keep it in top mechanical condition and remain alert and ready will rarely have even a close call.

CHAPTER SIX: *School Bus Collisions*

Many traffic safety experts use the word "collision" instead of "accident". They argue that very few crashes occur by chance or accident. Most drivers use the word accident to mean a crash, an unfortunate event resulting from unavoidable causes or a driver's carelessness, lack of awareness or inattention.

A collision in a school bus is usually more serious than one involving cars alone. The weight of the bus and the number of people involved are greater.

School bus drivers have an outstanding safety record. Each year, many collisions occur that could have been avoided by alert drivers and safe driving practices.

All collisions involving a school bus must be reported regardless of the extent of damage.

Most Frequent Convictions in School Bus Collisions

- Unsafe movement
- Exceeding a safe speed
- Improper backing
- Failure to yield right of way
- Driving on the wrong side of the road
- Following too closely.

Common Causes of Collisions

Objects in the Roadway

Many collisions occur when drivers attempt to dodge small animals or other objects on the highway. Such abrupt changes of direction may result in loss of control of the vehicle or colliding head-on with an oncoming vehicle. When approaching something on the road, exercise extreme caution. It may be better to hit the object when it does not involve another person than to swerve to avoid it. Report all incidents of this nature to school transportation officials.

Misbehavior

Misbehavior of students while the bus is in operation may result in you taking your attention off the road. You may be tempted to use the inside rearview mirror to try to correct a problem, taking your eyes off the road even though you are still moving. Such a distraction greatly increases the chances of a collision.

Check to see what discipline policy is used in your local school system. If possible, handle your own problems as they occur, going to school transportation officials only when the problem continues or is severe enough to warrant stiffer measures.

Tampering with the emergency door while the bus is in motion is a form of behavior problem. If the buzzer should sound, stop, take care of the behavior problem and shut the door. Report the incident to school transportation officials.

In general, in cases of misbehavior:
- Select a safe place to pull off the roadway.
- Restore order.
- Report misbehavior to school transportation officials, if necessary.

Physical force and putting students off the bus to walk are not allowed as methods of discipline. Video cameras can be installed to check on passenger behavior.

Collision Procedure

You must know what to do and take steps to avoid further confusion, injury and damage in the event of a collision:
- Stop. Vehicles should not be moved except by permission of the investigating officer.
- Evacuate the bus only if necessary.
- Notify proper authorities.
- Check each passenger and render first aid as necessary.
- Remain with the bus to gather necessary information for the collision report, such as names and license numbers.
- Report all collisions regardless of injury, death or property damage, in accordance with local policy.
- Remember, any statement you make about the collision can be used in court. Do not discuss causes of the crash with others involved. Do not admit guilt. Let the case be handled by proper authorities.

The Tort Claims Act and Collisions

Under the Tort Claims Act (GS 143-300.1), the NC Attorney General's Office handles claims for injury or damage arising from school buses operations. As long as you are certified to drive, authorized by the principal to drive, on the assigned route for that trip and driving according to the rules and regulations set forth by the state and the local school system, you are unlikely even to have an collision, much less to be called to court as a defendant.

You are covered by worker's compensation (GS 115C-337) for injuries suffered in the course of your work as a driver. Check with your local administrative unit.

You are responsible for traffic violations you commit, either while driving either your assigned bus or your personal car. If convicted, you pay all fines and costs.

Emergency Equipment

An adequate first-aid kit and operational fire extinguisher must be kept in the proper place. The next trip may bring a collision and injuries. You should have a basic knowledge of first aid, as set forth in the First-Aid video (School Bus Driver Training Course). It is recommended that you take a course in first aid and keep a good manual on first aid with you on the bus at all times. Knowing what not to do can be as important as knowing what to do in case of a collision.

Fires

Causes

Bus fires can cause damage and injury. Learn the causes of fires and how to prevent them. Know what to do to extinguish fires. Some causes of vehicle fires:

- **Collisions** - spilled fuel.
- **Tires -** under-inflated tires and duals that touch.
- **Electrical System** - short circuits due to damaged insulation, loose connections.
- **Fuel** - driver smoking, improper fueling, loose fuel connections.
- **Vandalism** - someone may set a bus on fire.

Fire Prevention

Pay attention to the following:

- **Pre-Trip Inspection.** Make a complete inspection of the electrical, fuel and exhaust systems and all tires.
- **Follow Safe Procedures.** Follow correct safety procedures for fueling the vehicle, using brakes and other activities that can cause a fire. Never fuel a bus in an enclosed area or with passengers on the bus.
- **Monitoring.** Check the instruments and gauges often for signs of overheating.

Fire Fighting

Knowing how to fight fires is important. Drivers who didn't know what to do have made fires worse. Here are some procedures to follow in case of fire:

- **Pull off the road.** The first step is to get the vehicle off the road. In doing so:
  - Park in an open area, away from buildings, trees, brush and vehicles or objects that might catch fire.
  - Evacuate the bus.
  - Notify authorities of your problem and location.

- **Keep the Fire from Spreading.** Before trying to put out the fire, make sure that it doesn't spread any farther.
  - With an engine fire, turn off the engine as soon as you can.
  - Do not open the hood.
  - Spray the extinguisher through the grill, radiator or from the underside of the vehicle.

- **Use the Right Fire Extinguisher.** The B:C type fire extinguisher on your bus is designed to work on electrical fires and burning liquids.

- **Extinguish the Fire.** Here are some rules to follow in putting out a fire:
  - Only try to extinguish a fire if you know what you are doing and it is safe to do so.
  - Know how the fire extinguisher works. Study the instructions on the extinguisher before you need it.
  - When using the extinguisher, stay as far away from the fire as possible.
  - Aim at the source or base of the fire, not up in the flames.
  - Position yourself upwind. Let the wind carry the extinguisher to the fire rather than carrying the flames to you.
  - Continue until whatever was burning has been cooled. Absence of smoke or flame does not mean the fire is completely out or cannot restart.

TEST YOUR KNOWLEDGE

1. In cases of misbehavior, the driver should:
   a) put the student off the bus;
   b) correct the problem while driving;
   c) stop the bus in a safe place and restore order;
   d) ignore the misbehavior.

2. The following are some causes of vehicle fires:
   a) Collisions. Spilled fuel.
   b) Tires. Under-inflated tires and duals that touch.
   c) Fuel. Driver smoking.
   d) all of the above.

3. The Tort Claims Act applies if
   a) the driver is certified and authorized to drive;
   b) the driver has liability insurance;
   c) the driver is not on the assigned route;
   d) a moving violation has been committed and a ticket has been issued.

4. When fighting a vehicle fire
   a) aim the fire extinguisher at the point where flames end and smoke begins;
   b) open the doors, hatches, windows and hood;
   c) use water if the fire extinguisher runs out;
   d) stand upwind and aim the fire extinguisher at the base of the fire.

Emergency Unloading

You must quickly evaluate any emergency situation and determine the immediate steps to take. In some instances, it may be best to keep passengers on the bus. Fire, a traffic collision or another serious incident may require that all persons riding on a school bus leave the bus as soon as possible. To prevent injury or lessen the chance of further injuries, every rider of a school bus must be trained in emergency evacuation procedures.

Your passengers must unhesitatingly obey you when carrying out drills or a real evacuation. It is not feasible to conduct drills for an overturned bus but knowledge of what to do and practice in fire drills should aid in building confidence in yourself and your passengers to do the correct thing, should the need arise. Evacuation drills should be conducted at least twice each school year under the direction of school personnel.

The bus is secondary to the safety of the passengers. No attempt to save property will be made until all of the passengers are removed from the bus.

Suggested Evacuation Procedure

- Park the bus as close to the shoulder of the road as possible and
  - Turn hazard lights on;
  - Set the parking brake;
  - Turn engine off.
- Stand facing the rear of the bus.
- Give the commands: "Remain seated. Prepare to evacuate."
- Turn toward the front of the bus.
- Move backwards to the first occupied seats.
- Start with either the left or the right seat.
  - Touch the person nearest the aisle to indicate that passengers in that seat are to move off.
  - Keep the passengers in the opposite seat seated by holding your hand, palm out in a restraining gesture, until aisle is clear.
  - Move out the passengers in the opposite seat, using the same signal.
- Move backwards down the aisle, repeating this procedure at each seat until the bus is empty.
- Check the bus from the very back seat to the front, making sure it is empty.
- Have the students move to a safe distance and keep them there as a group, away from any dangerous area.
- Continue to check for students while removing the fire extinguisher and first-aid kit, if needed.
- Call or have someone call the fire department, the garage and the school, as necessary.

Normally the front entrance will be available. A fire at the front of the bus may make the regular entrance unusable and an alternate route of evacuation necessary. The emergency door can be used as the primary exit. Use the emergency door only in an extreme emergency. Evacuation through both doors is fastest, with the rear monitor working forward seat by seat and the driver working backward, seat by seat, using the procedures outlined previously. Newer buses also have emergency window exits on each side. The windshield and rear windows can also be pushed out to facilitate evacuation. If the bus is on its side, roof hatches can be used. Check local policy on special education buses.

Injured Student or Students

The decision to move an injured student or students will have to be made based upon the seriousness of the injuries and the danger of staying on the bus. Sometimes, it is best to leave the injured student on the bus and let medical personnel move the student when they arrive. If it is dangerous to remain on the bus, then the injured student(s) should be moved with care, depending upon the injury the student has sustained. The driver will move the students with assistance from other uninjured students, if available. All students who are able to evacuate the bus should do so using the previously mentioned instructions. Students will be appointed by the driver to help the injured students who cannot vacate the bus only if the driver deems the conditions on the bus to be safe enough for those students to board the bus and assist.

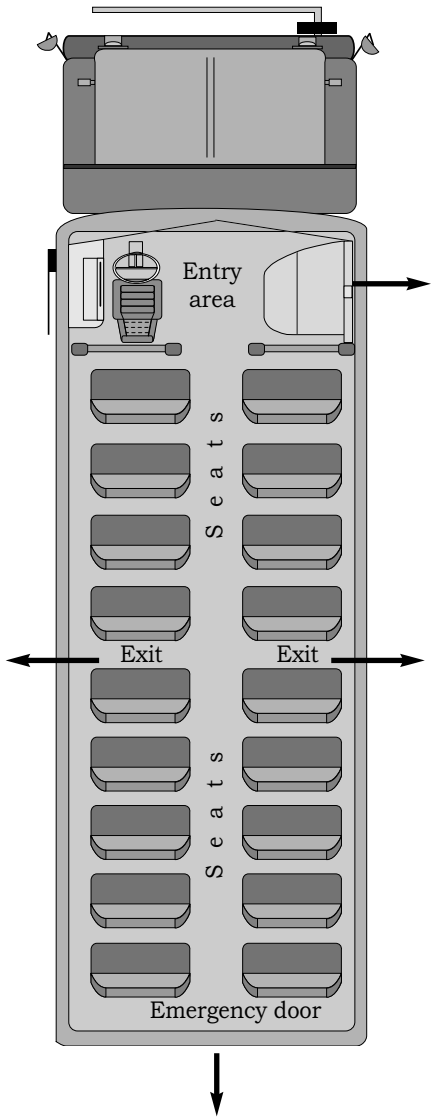
Injured Driver

If the driver is unconscious, or too injured to move, a student will have to decide which exit to use. That student will take charge of the evacuation. The ages of the students on the bus may prevent some decisions being made by the students. Evacuation training at the beginning of the school year and during the school year will help in case this scenario ever happens during a bus route. The first order of business should be to evacuate the students first, then help the driver. The driver should not be moved from the bus unless it is dangerous for the driver to stay on the bus.

General Safety Rules

- No given procedure can cover every type of emergency that may arise. The procedures given here should be followed as closely as possible.
- Get students completely out of danger before attempting any other action.
- Do not endanger yourself fighting a fire. Follow your training to the fullest.
- Do not allow students to re-enter the bus until the fire department has checked the bus and assured you that the fire, minor or not, has been extinguished.
- If mechanical damage is suspected, do not reload the bus until the county garage mechanic has checked it and certified that it is safe to use.
- If told to do so by firemen, policemen or the mechanic, move the bus, less passengers, to clear traffic lanes.

Remember: A bus can be replaced. A student cannot.



Evacuation Routes

7 CHAPTER SEVEN: *Air Brakes*

This section tells you about air brakes. You need this information for safe operation of air brakes used on buses.

Air brakes use compressed air to operate. Air brakes are a safe way of stopping large vehicles if the brakes are well maintained and used correctly. You must know more about air brakes than you need to know with the simpler brake systems used on light vehicles. It is important for you to study this section.

Air brake systems consist of three braking systems - the service brake, parking brake and emergency brake.

- The service brake system applies and releases the brakes when you use the brake pedal during normal driving.
- The parking brake system applies and releases the parking brakes when you use the parking brake control.
- The emergency brake system uses parts of the service and parking brake systems to stop the vehicle in the event of a loss of air pressure.

The Parts of an Air Brake System

There are many parts of the air brake system. You should know about the parts discussed below.

Air Compressor

The air compressor pumps air into the air storage tanks. The air compressor is mounted to the engine and is operated through gears or a V-belt. Nothing should be in the air brake system but air. There should be no oil or water in the air brake system.

Air Compressor Governor

The governor controls when the air compressor will pump air into the air storage tanks. When air tank pressure rises to the cut-out level (120 psi), the governor stops the compressor from pumping air. When the tank pressure falls to the cut-in pressure (90 psi), the governor allows the compressor to start pumping again.

Air Pressure Gauge (Supply Pressure Gauge)

The air pressure gauge gives a reading in pounds per square inch (psi). All air-braked vehicles must have a pressure gauge connected to the air tank. If the vehicle has a dual air brake system, there will be a gauge for each system or a single gauge with two needles. Dual systems will be discussed later. These gauges tell you how much pressure is in the air storage tanks for braking.

Air Storage Tanks

Air storage tanks are used to hold compressed air. The number and size of air tanks varies among vehicles. The tanks will hold enough air to allow the brakes to be used several times even if the compressor stops working.

Safety Valve

The first tank receiving compressed air is equipped with a safety relief valve. The safety valve protects the tank and the rest of the system from too much pressure. The valve is usually set to open at 150 psi. If the safety valve releases air, something is wrong. Report this to the bus garage.

The Drier

Moisture can build up in the storage tanks and brake lines. The purpose of the drier is to take as much of this moisture out of the system as possible. Its drying capacity is 30 quarts per month, which should take care of any need.

Air Chambers

Air chambers are located at each of the four wheel positions of the bus. They convert air pressure to mechanical force to operate the brakes. A special mechanism in the rear chambers causes the brakes to lock up when there is an insufficient amount of air pressure.

Slack Adjusters

These levers provide a link between the air chamber and the brake mechanism to activate the brakes. Over time, wear occurs in a brake system. The slack adjusters at each wheel are also used to balance this wear by allowing adjustment.

The Brake Pedal

The brake pedal controls the air pressure needed to operate the brakes. You apply the brakes by pushing down the brake pedal (also called the foot valve, treadle valve or service brake). Pushing the pedal down harder applies more air pressure. Letting up on the brake pedal reduces the air pressure and releases the brakes. Releasing the brakes lets some compressed air go out of the system so the air pressure in the tanks is reduced. The air compressor must make it up. Pressing and releasing the pedal repeatedly can let air out faster than the compressor can replace it. If the pressure gets too low the brakes won't operate properly.

Brake Drums, Shoes and Linings

Brake drums are located on each end of the vehicle's axles. The wheels are bolted to the drums. The braking mechanism is inside the drum. To stop, the brake shoes and linings are pushed against the inside of the drum. This causes friction that slows the vehicle (and creates heat). The heat a drum can take without damage depends on how hard and how long the brakes are used. Too much heat can make the brakes stop working. The brake linings are not visible and you are not required to check them.

Low Air Pressure Warning

A low air pressure warning signal is required on vehicles with air brakes. A warning signal you can see must come on before the air pressure in the tanks falls below 60 psi. The warning is a red light. A buzzer may also sound.

Stop Light Switch

This is an electric switch that works by air pressure. It turns on the brake lights when you apply the air brakes.

Spring Brakes

All air brake buses must be equipped with emergency brakes and parking brakes. They must be held on by mechanical force because air pressure can eventually leak away. Spring brakes are usually used to meet these needs. When driving, the powerful springs are held back by air pressure. If the air pressure is removed, the springs put on the brakes (rear wheels only). A parking brake control allows the driver to let the air out of the spring brakes, activating the parking brakes. A leak in the air brake system that causes the air to be lost will automatically activate the emergency brakes.

The emergency brakes will come fully on when air pressure drops to a range of 20 to 45 psi (typically 30 psi.). Do not wait for the brakes to come on automatically. When the low air pressure warning light and buzzer first sound, 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 brakes being in adjustment. If the brakes are not adjusted correctly, neither the service brakes, parking brakes nor emergency brakes will work properly. Brakes that are out of adjustment most often cause failure of the air brake system.

Remember 30-60-90-120-150 psi.

Parking Brake Controls

In newer vehicles with air brakes, you put on the parking brake using a diamond shaped, yellow, push-pull control knob. You pull the knob out to put the parking brakes on and push it in to release them. Use the parking brakes when you park.

TEST YOUR KNOWLEDGE

1. What three systems make up the air brakes system of your bus?

2. What happens when something is wrong and the pressure in the air tank reaches 150 psi?

Multiple Choice Questions

1. The low air pressure warning light first activates when the pressure in the storage tanks drops to approximately
   a) 45 psi;
   b) 30 psi;
   c) 60 psi;
   d) 50 psi.

2. The purpose of the air storage tanks is to
   a) provide flotation in case of high water;
   b) hold compressed air;
   c) provide a source of air to inflate slack tires;
   d) none of the above.

3. At what pressure range do the spring brakes engage?
   a) 20 - 45 psi;
   b) 30 - 60 psi;
   c) 90 - 120 psi;
   d) 120 - 150 psi.

4. What keeps the emergency brakes from applying while you are driving the bus?
   a) spring pressure;
   b) hydraulic pressure;
   c) air pressure;
   d) foot pressure on the brake pedal.

Dual Air Brake Systems

Most newer vehicles use dual air brake systems. A dual air brake system has two separate air brake systems that use a single set of brake controls. Each system has its own air tanks, hoses, lines, etc. One system typically operates the brakes on the rear axle. The other system operates the brakes on the front axle. The first system is called the primary system (rear brakes). The other is called the secondary system (front brakes). The air for both systems comes from a single air compressor. A single brake pedal operates both systems.

Before driving a vehicle with a dual air system, allow time for the air compressor to build up a minimum of 100 psi in both the systems. Watch the air pressure gauges (or needles, if the system has two needles in one gauge).

Pay attention to the low air pressure warning light and buzzer. The warning light and buzzer should shut off when air pressure in both systems rises to a value set by the manufacturer. This value must be greater than 60 psi. The warning light and buzzer should come on before the air pressure drops below 60 psi in either system. If one air system is very low on pressure, the brakes will not operate that system fully. This means it will take you longer to stop.

Air Brake Checks

Check for leaks, alarm and button pop-out: the LAB test. Failure to perform all three air brake checks correctly and in order during the vehicle inspection will result in vehicle inspection test failure.

- **Leaks** - With air pressure at the governed cut-out pressure of 120 pounds per square inch (psi), shut the engine off, chock the wheels if necessary, fully apply the foot brake and release the parking brake. Keep firm pressure on the foot brake for one minute after the gauge stabilizes. Check the air pressure gauge to see that air pressure loss does not exceed three psi and listen for leaks.
- **Alarm** - Turn ignition key to on. Apply and release the foot brake repeatedly to reduce the air pressure. The low air pressure warning light and buzzer should come on before the air pressure drops below 60 psi. Turn ignition key off.
- **Button pop-out** – Continue to reduce air pressure. The parking brake button should pop out when the air pressure drops to between 20 - 45 psi.

Parking Brake and Service Brake Checks

- **Parking brake** – Start the engine and check that the air pressure is in the range of 90-120 psi. With parking brake engaged, shift the transmission to drive, release the brake pedal and accelerate lightly (less than 1500 rpm). Bus should not move.
- **Service brake** - Release the parking brake. Move forward slowly (about five mph). Press the brake pedal firmly. Note any problems such as unusual noise (scrubbing), unusual feel (harder to press pedal), pulling to one side (swerving) or delayed stopping.

Always check your brakes before every trip.

TEST YOUR KNOWLEDGE

1. What is a dual air brake system?

2. How can you check that the spring brakes will come on automatically without moving the bus?

Multiple Choice Questions

1. On dual air brake systems, the air tank(s) and air lines which operate the rear wheels is called the
   a) primary system;
   b) remote system;
   c) secondary system;
   d) pressurized system.

2. Dual air brake system buses have two sets of
   a) tires (on the back only);
   b) air lines;
   c) air tanks;
   d) both b and c.

3. The service brake check should be done when
   a) the bus is moving at least 20 mph;
   b) the bus is parked in a safe place;
   c) the brakes are fading due to a long downgrade;
   d) the bus is moving slowly

4. The LAB “leaks” test is done
   a) immediately after the engine is started;
   b) while the engine is running at fast idle;
   c) only when the air compressor governor light is on;
   d) with engine off and air pressure between 90-120 psi.

Using Air Brakes

Normal Stops

Depress the brake pedal, controlling the air pressure required for stopping. For a smooth stop, feather the brake by slightly reducing pressure on the brake pedal at the instant just before the bus stops rolling.

Emergency Stops

You should brake so you can stay straight, maintain steering control and prevent skidding. Use one of these methods.

- **Controlled Braking**. This method is also called squeeze braking. Put on the brakes as hard as you can without locking the wheels. Do not turn the steering wheel. If you need to make large steering adjustments or if you feel the wheels sliding, release the brakes. Brake again when the tires get traction.
- **Stab Braking**. (Use only on dry surfaces.)
  - Press on the brake pedal hard as you can.
  - When the wheels lock up, release the brakes.
  - It can take up to one second for the wheels to start rolling after you release the brake pedal. Make sure you stay off the brakes long enough to get the wheels rolling again; otherwise, the vehicle may not stay in a straight line. As soon as the wheels start rolling, apply the brakes fully again.
  - Repeat the procedure until stopped.

Note: If driving a bus with anti-lock brakes, you should know and follow the procedures found in the operators manual for stopping quickly.

You lose steering control when your front tires are not rolling.

Stopping Distance

The heavier the vehicle or the faster it is moving, the more heat the brakes have to absorb to stop it. Hydraulic brakes work instantly. With air brakes there is an added delay. It takes a little time for the air to flow through the lines to the brakes. This is known as brake lag. Effective braking distance is the distance the bus travels after the brakes have been applied. The total stopping distance for vehicles with air brakes is the sum of:

Perception Distance
Reaction Distance
Brake Lag Distance
+ Effective Braking Distance
= Total Stopping Distance

Braking on Downgrades

When you use the brakes, they build up heat. Slowing down from too high a speed, over-braking or a combination of both causes excessive heat. Brakes will fade when they get too hot (they lose some of their stopping power due to excessive heat and you will have to push harder on the pedal to get the same stopping power or keep the same speed). If you continue to use the brakes hard, they will fade so badly they will not slow you down (brake failure). If you feel that your brakes are fading, stop as soon as possible, park the bus and allow the brakes to cool. Brakes do not cool quickly. Do not apply the parking brakes or emergency brakes when the brakes are overheated. Use chock blocks or some other method to keep the bus from moving while the brakes cool.

The use of brakes on a long and/or steep downgrade is only a supplement to the braking effect of the engine. Shift to a lower gear before starting downgrade.

The right way to use your brakes for long downhill grades is to go slow enough that a fairly sparing use of the brakes will keep your speed from increasing. Forceful, intermittent braking (snubbing) is safer than light, continued braking. Letting up on the brakes from time to time will help keep them from getting too hot and allow them to cool enough so that they don't become overheated. Light, continued pressure causes hot spotting and makes the brakes run hotter, leading to increased probability of brake fade. Light, continued pressure also causes the brakes to wear faster which is both a safety problem and a maintenance problem.

Therefore, select the right gear, go slow enough and use forceful, intermittent braking (snubbing).

It is especially important for the brakes to be adjusted properly when going down steep grades. In addition to proper adjustment, the air brake system should be balanced to give about the same braking at each of the wheels; otherwise, some brakes will do more work than others. Brake balance can be tested and fixed by school mechanics.

Low Air Pressure Warning

If the low air-Pressure warning comes on or there is a sudden drop in pressure, stop with one smooth, steady application of the brake and safely park your vehicle as soon as possible. There might be an air leak in the system. Controlled braking is possible only while enough air remains in the air tanks. The spring brakes (emergency brakes) will come on automatically when the air pressure drops into the range of 20 to 45 psi. Lightly loaded buses or buses on slippery roads may skid out of control when the spring brakes come on. It is much safer to stop while there is enough air in the tanks to use the brake pedal.

Parking

When parking the bus for a long period of time (e.g., overnight) or when there is danger of someone getting on the bus who could accidentally release the brake, decrease the air pressure in the system until the parking brake knob will no longer stay in. This will activate the emergency brakes and prevent the bus from being moved until the pressure is built up. Additionally, use chock blocks, if available.

TEST YOUR KNOWLEDGE

1. Why is it important to go slow on downgrades?

2. What does “using the brakes hard going downhill and letting up on the pedal frequently to cool the brakes” describe?

3. When parking the bus overnight, is use of the parking brakes sufficient?

Multiple Choice Questions

1. Controlled braking is:
   a) “squeeze” braking;
   b) applying brakes as hard as you can without locking the wheels;
   c) braking to lock the wheels;
   d) both a & b.

2. Stab braking is:
   a) locking the brakes, then releasing them, and when the wheels start rolling, repeat the procedure until the bus has stopped;
   b) the same as controlled braking;
   c) fanning the brakes;
   d) none of the above.

3. Stab braking
   a) should only be done if the pavement is slippery;
   b) is used to keep brakes from wearing out too soon;
   c) is also called “forceful, intermittent braking”;
   d) none of the above.

8 CHAPTER EIGHT: *Passenger Endorsement*

Pre-Trip Inspection

Before driving your bus, you must inspect it to be sure it is safe. Review the previous inspection report. Sign it only if defects reported are certified as repaired or not needing repairs. Ensure that these items are in good working order:

- Lights and reflectors.
- Wheels (front tires must not be recapped or regrooved.)
- Glass and mirrors.
- Passenger entry and aisle.
- Signaling devices, including the restroom emergency buzzer, if the bus has a restroom.
- Seats. Must be securely fastened. No seats added.
- Emergency equipment. Fire extinguisher, three emergency reflectors (triangles) and spare electrical fuses (unless equipped with circuit breakers).
- Emergency exits. Closed. Emergency roof hatches may be locked (latched) partially open for fresh air. "Emergency Exit" sign - clearly visible. Emergency door light - must work (if applicable).
- Inside controls (e.g., horn, wipers).
- Service brake, parking brake and emergency brake.
- Seat belt. Wear it when driving.

Loading and Trip Start

Do not allow riders to leave anything in a doorway or aisle. Secure baggage and freight in ways that avoid damage and

- allow the driver and passengers to move easily,
- allow riders to exit by any window or door in an emergency and
- protect riders from injury if carry-ons fall or shift.

Watch for cargo or baggage containing hazardous materials. Most hazardous materials cannot be carried on a bus; however, some can if they meet certain conditions. The Federal Hazardous Materials Table shows which materials are hazardous. 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. Buses must never carry:

- Class 2 poison, liquid Class 6 poison, tear gas or 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 allowable class.

No rider may stand forward of the rear of the driver's seat. Standing riders must stay behind the 2-inch "standee line".

On the Road

Passenger Transport

Many charter and inter-city carriers have rules for passenger comfort and safety. Mention the rules at the start of the trip. Explaining the rules at the start will help to avoid trouble.

While driving, regularly check the road ahead and scan your mirrors to see to the sides, rear and interior of your bus, checking for traffic hazards and potential problems. A hazard is anyone or anything that may cause an unsafe condition.

Occasionally, you may have a drunk or disruptive rider. You may discharge unruly passengers where it would be safe for them. It may be safer at the next scheduled stop or a well-lighted area where there are other people.

The Most Common Bus Crashes.

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

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, posted speed is safe for cars but may be too high for many buses. With good traction, the bus may roll over. With poor traction it might slide off a curve. Slow to a safe speed before you enter a curve. Be in a gear that will let you accelerate slightly in the curve.

You should always be able to stop within the distance you can see ahead. Fog, rain or other conditions may require that you slow down to be able to stop in the distance you can see. At night, you cannot see as far with low beams as with high beams. When you use low beams, slow down.

How much space should you keep in front of you? One good rule says you need at least one second for each 10 feet of vehicle length at speeds below 40 mph. At greater speeds, add one second for safety. For example, if you are driving a 40-foot vehicle, you should leave at least four seconds between you and the vehicle ahead. At 40 mph and greater, you would at least need five seconds. In adverse conditions, increase following distance.

Railroad Crossings.

When stopping, 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.

Bridges

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 ensure it's safe when

- there is a traffic light showing green or
- the bridge has an attendant or traffic officer who controls traffic whenever the bridge opens.

After-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, specifying any defect that would affect safety or could result in a breakdown. If there are none, the report should say so.

Prohibited Practices

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

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

TEST YOUR KNOWLEDGE

1. What three items of emergency equipment are required for commercial buses?

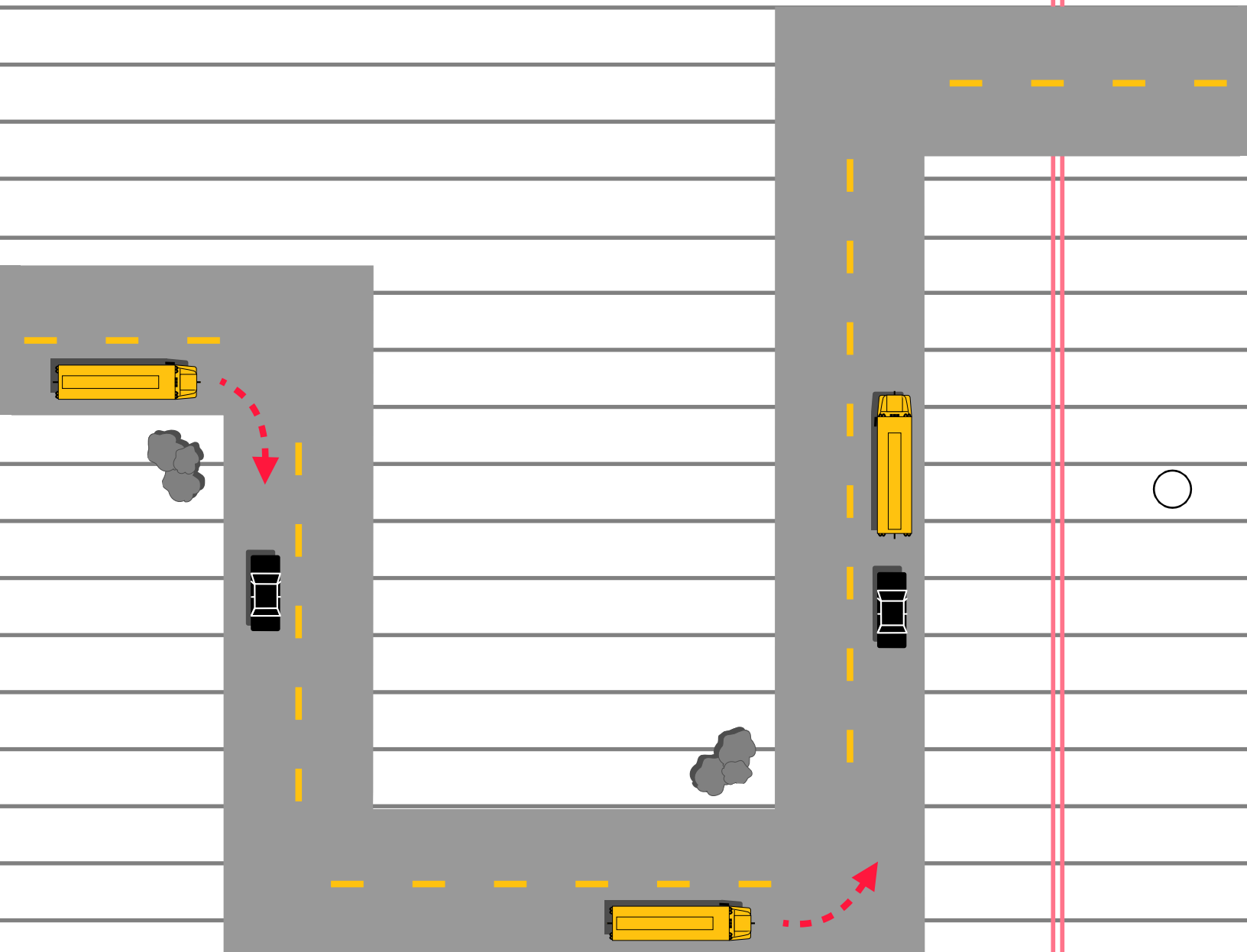
2. What does "You may lock some emergency roof hatches in a partially open position for fresh air" mean?

Multiple Choice Questions

1. Which type of hazardous materials may be carried on a commercial bus?
   a) no hazardous materials may be carried on a commercial bus;
   b) 100 pounds or less of small arms ammunition labeled ORM-D;
   c) liquid Class 6 Poison;
   d) tear gas.

2. The good rule about following distance states
   a) it should never be less than 10 seconds;
   b) one second for every 10 feet of bus length below 40 mph;
   c) add one second for speeds of 40 mph or more;
   d) both b and c.

3. You are driving a 50-foot commercial. bus. What should be your following distance if you are going 25 mph? / 70 mph?
   a) 4 seconds / 6 seconds;
   b) 5 seconds / 6 seconds;
   c) 5 seconds / 10 seconds;
   d) 5 seconds / 7 seconds.



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