

SENATE HEARING SLIP

(Please Print Plainly)

DATE: 2/15/00
BILL NO. AB 590
OR
SUBJECT _____

Rep David Brandenburg
(NAME)

(Street Address or Route Number)

(City and Zip Code)

(Representing)

Speaking in Favor:
Speaking Against:
Registering in Favor:
but not speaking:
Registering Against:
but not speaking:
Speaking for information only; Neither for nor against:

Please return this slip to a messenger PROMPTLY.
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State Capitol - B35 South
P.O.Box 7882
Madison, WI 53707-7882

SENATE HEARING SLIP

(Please Print Plainly)

DATE: 2/16/00
BILL NO. AB 590
OR
SUBJECT _____

Keith Pollock
(NAME)

125 S. Webster St GEF3
(Street Address or Route Number)
Madison, WI
(City and Zip Code)

DP I
(Representing)

Speaking in Favor:
Speaking Against:
Registering in Favor:
but not speaking:
Registering Against:
but not speaking:
Speaking for information only; Neither for nor against:

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DATE: 2-16-00
BILL NO. AB-590
OR
SUBJECT _____

Julie Clark-DOT
(NAME) ^{Dm}

4802 Sheboygan Ave
(Street Address or Route Number) #551
Madison, WI 53707
(City and Zip Code)

DOT-DM
(Representing)

Speaking in Favor:
Speaking Against:
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but not speaking:
Registering Against:
but not speaking:
Speaking for information only; Neither for nor against:

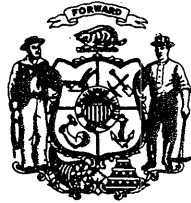
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ROGER BRESKE

STATE SENATOR

12th District

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COMMITTEE MEETING/AGENDA**THE CAPITOL – ROOM 201SE**

February 16, 2000

I. CALL TO ORDER

“The hour of 10AM having arrived, I will call this meeting of the Senate Insurance, Tourism, Transportation and Corrections Committee to order. The clerk will take the role.”

II. Senate Bill 362 Relating to: fiscal estimates for bills containing criminal penalty provisions, establishing a corrections special reserve fund and making appropriations.

By Senators Panzer, Breske, Huelsman, George, Schultz, Risser, Roessler, Plache, Rosenzweig, Baumgart, Cowles, Erpenbach and Darling; cosponsored by Representatives Krug, Goetsch, Balow, Ladwig, Plouff, M. Lehman, Lassa, Olsen, Ryba, Bock, Boyle, Pocan, Hebl, Colon, Richards, Miller, Riley, Carpenter, Berceau, Gunderson and Sherman.

III. Assembly Bill 590 Relating to: qualifications for endorsements authorizing the operation of a school bus.

By Representatives Brandemuehl, Spillner, Ryba, La Fave, Kestell, Ladwig, Sykora, Stone, Musser, Hasenohrl, Kedzie, Owens, Albers, J. Lehman, Olsen, Kelso, Freese, Colon, Gronemus, Petrowski, Seratti and Vrakas; cosponsored by Senators Rosenzweig, Huelsman, Breske and Roessler.

IV. Assembly Bill 606 Relating to: expanding the definition of “bed and breakfast establishment.”

By Representatives Spillner, Porter, Reynolds, Ward, Hutchison, Seratti, Olsen, Hundertmark, Goetsch, Gunderson, Jeskewitz, Kaufert, Kelso, Klusman, Musser, Nass, Skindrud, Stone and F. Lasee; cosponsored by Senators Baumgart, Burke, Decker, Huelsman, Rosenzweig, Rude and Breske.

V. **Assembly Bill 385 Relating to: time limits on the service of process on the commissioner of insurance (suggested as remedial legislation by the office of the commissioner of insurance).**

Law Revision Committee.

VI. **Senate Bill 381 Relating to: special distinguishing registration plates associated with Ducks Unlimited, Inc., and making an appropriation.**

By Senator Wirch; cosponsored by Representatives Kreuser, Seratti, Handrick, Steinbrink, Turner, Kreibich, Lassa, Hoven and Hutchison.

VII. **For discussion purposes only, I have included Trans 233 on our calendar today. This rule relates to the division of land abutting a state trunk highway or connecting highway.**

- The next meeting of this committee will take place next Wednesday in Reedsburg.
- Thanks to Sen. Schultz for helping to make the arrangements.

VIII. **CLOSE PUBLIC HEARING.**

IX. **CALL TO ORDER – EXECUTIVE SESSION**

X. **CLERK WILL TAKE THE ROLL**

XI. Chair would entertain a motion to recommend Senate Bill 362 Relating to: fiscal estimates for bills containing criminal penalty provisions

XII. Chair would entertain a motion to concur in AB590 – qualifications for school bus operators.

XIII. Chair would entertain a motion to concur in AB606 – bed and breakfast bill.

XIV. Chair would entertain a motion to concur in AB385 – Law revision bill.

XV. Chair would entertain a motion to recommend SB381 – Ducks Unlimited License Plate.

XVI. Chair would entertain a motion to adopt Senate Substitute Amendment 1 to SB257 – the pre-need funeral bill. Copies were circulated earlier this week to all of your offices.

Chair would entertain a motion on final passage for SB257 as amended.

XVII. Chair would entertain a motion for concurrence in AB188 – a companion to SB177 which we passed unanimously previously in this committee. Bill relates to septic haulers and certain weight limits.

Hearing on AB 590 - School Bus Driver Re-Testing
Senate Committee on Insurance, Tourism, Transportation &
Corrections
Wednesday, February 16, 2000

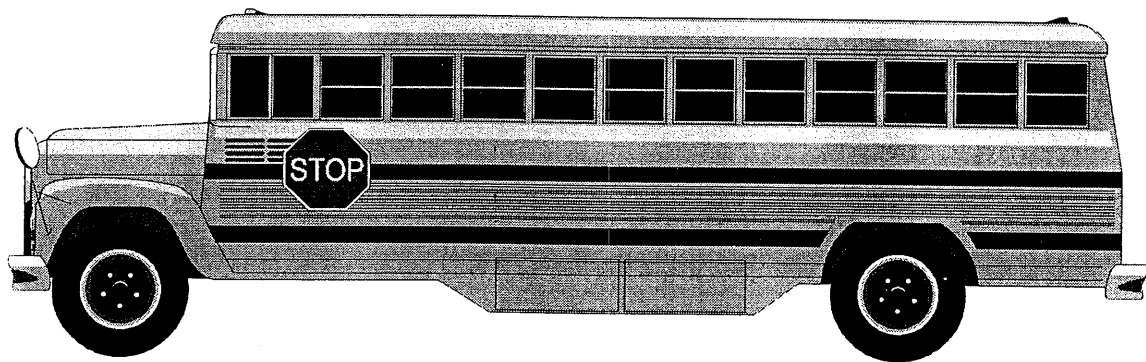
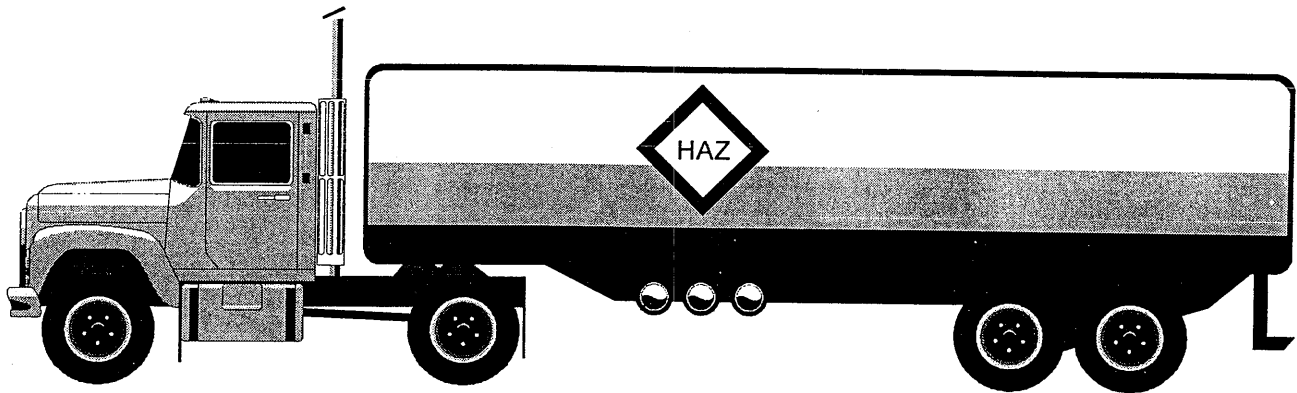
- Most school buses are commercial motor vehicles and fall under the CDL (Commercial Driver's License) law. Most school bus drivers have a Class B or C license with the school bus endorsement.
- In February, 1998, DMV changed to an 8 year driver license issuance cycle. This included renewal of school bus endorsements every 8 years after passing a knowledge & abbreviated road test. **The WI School Bus Contractors Association and DOT supports keeping the retesting of school bus drivers under 70 years of age every 4 years and drivers 70 and older every 2 years.**
- There are approximately 28,000 licensed school bus drivers in WI.
- We currently contact all school bus drivers every 2 years for an updated medical and vision report; drivers 70 and older file medical and vision reports annually.
- Members of the traffic safety and school bus transportation community believe the longer gap between testing for school bus drivers as a result of the 8 year renewal cycle is a traffic safety concern.
- School bus drivers are required to meet special requirements in many areas because of the additional risk and responsibility that comes with transporting school children, such as the use of flashing lights and stop arms.

Wisconsin Commercial Driver's Manual

In 2 Volumes

Volume II: School Bus and Hazardous Materials

Other CDL information is found in Volume I



From Now On, Only the Best Will Drive

June, 1998



**Commercial Driver's License Information
for the Following Cities and Surrounding Areas:**

<i>Fond du Lac</i>	(414) 929-3724
<i>Green Bay</i>	1-800-924-3570 (only from Green Bay)
<i>Madison</i>	(608) 266-2325
<i>Milwaukee</i>	(414) 266-1000
<i>Rice Lake</i>	(715) 836-2803
<i>La Crosse Area</i>	(608) 789-4620
<i>Waukesha</i>	(414) 266-1000
<i>Wausau</i>	(715) 359-6981

Toll free number for general information and third-party tester locations:

(Statewide) 1-800-242-2514

The Department of Transportation intends that the products and services it offers are accessible to all. If you need accommodations or do not understand any part of this publication, please contact any Division of Motor Vehicles (DMV) Service Center.

Note: Information in this and other handbooks and manuals published by the Division of Motor Vehicles is subject to change due to law changes. For the latest information contact a DMV Service Center.

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WARNING:

If you drive a vehicle over 10,000 lbs. in interstate commerce, you may be subject to Federal Motor Carrier safety regulations.

Contact a State Patrol office for details.

This section provides information for school bus drivers transporting children and persons with disabilities.

4.7 School Bus Drivers

You must have a school bus ("S") endorsement if you drive a vehicle (painted school bus colors) transporting:

- Pupils to or from school, or points designated by the school.
- Persons with disabilities or elderly persons in connection with any transportation assistance program.

For further clarification, see page 4-17 or contact the personnel at your nearest DMV Service Center.

To operate a school bus, drivers must have a **School Bus ("S")** endorsement. To operate a school bus which is a commercial motor vehicle (CMV), drivers must also have a Commercial Driver License (CDL) with a **Passenger "P"** endorsement. The first part of Section 4 outlines the information you need to qualify for a Commercial Driver License with a passenger endorsement. In addition, you will take a special school bus knowledge test based on information in this section and pass a skills test in a school bus. Prepare for the CDL knowledge tests by studying the information included in Sections 2 through 4. Prepare for the school bus knowledge test by studying Section 4.7-4.11.

- **Tests**

Anyone taking a skills test in a bus that is a CMV without air brakes will be restricted to operating a bus without air brakes (restriction "L").

If you take the skills test in a school bus designed to carry fewer than 16 passengers (including the driver), you will be restricted to driving a school bus of this size (non-CMV).

There are additional driver requirements for a school bus endorsement. To qualify for the endorsement, school bus drivers must:

- **Additional Requirements**

- Be at least 18 years old. (If you are under 21 years of age and want to drive a school bus, you will be restricted to intrastate operation - "K" restriction).
- Not have been convicted of reckless driving, operating a motor vehicle while under the influence of an intoxicant or controlled substance within the 2 year period immediately preceding the date of application.
- Not have been convicted of a felony or offense against public morals within the past 5 years.
- Have sufficient use of both hands and the foot normally used to operate the foot brake and accelerator safely.
- Have at least 20/40 vision corrected or uncorrected in each eye, have a minimum of 70 degrees field of vision in each eye and be able to identify traffic signal colors.

- Be able to hear a forced whisper at five feet with or without a hearing aid.
- Pass a special physical examination as required by the Department or present the DOT Federal Medical Card. Once you have the "S" endorsement, you must pass a physical every 2 years and upon renewal (every year if 70 or older) to retain the endorsement.
- At each **renewal** of the "S" endorsement, school bus drivers must be retested (if 70 or older, they must be retested every 2 years).

4.8 School Bus Rules

In addition to knowing and obeying general traffic rules applicable to all buses and large vehicles, school bus drivers must comply with the following rules and safe driving practices.

- Keep doors closed when moving, except when crossing railroad tracks.
- Transport authorized passengers only.
- Keep aisles, stair wells, and steps clear of book bags, band instruments, etc.
- Conduct a complete inspection prior to each trip. (See "Pre-Trip Inspection," in Section 4.1.)
- Keep children out of the back row of seats except when the bus is filled. Sitting near the front of the bus provides greater protection in rear end collisions.
- Seat students with special needs near the driver.
- Keep students seated when the bus is moving unless they are going to a door before stopping or to their seat immediately after loading.
- Prohibit smoking on the bus.
- Maintain a time schedule but not at the expense of safety.
- Use approved routes and pickup or discharge points.
- Follow approved routes except in emergency.
- NEVER leave the bus unattended with the engine running and the keys in the ignition.
- Wear the safety belt.

A challenging task facing school bus drivers is getting children to accept part of the responsibility for their safety on the bus. Establishing a positive relationship between the driver and the passengers helps gain this cooperation.

- **Supervising Students**

The school bus driver should:

INSTRUCT students on the hazards that are part of riding the bus or crossing the road.

INSTRUCT them how to protect themselves in a crash and the proper evacuation procedures.

REMIND children to continually follow safety procedures.

INFORM them of expected, acceptable behavior.

HANDLE disciplinary problems as they occur.

Maintaining proper discipline on the school bus reduces distractions and allows the driver to give full attention to driving. Students' behavior must not distract the driver or interfere with safety or other passengers.

Local school boards develop the rules for student behavior. Copies of the rules should be distributed to students and their parents. Rule enforcement is a responsibility shared by the school bus driver, school officials and parents.

Student Pick-Up and Discharge

- **Safety Tips**

Most student injuries occur at pick-up or discharge points. When the students are off the bus, the driver has little or no control over their safety.

Select pickup and discharge points carefully. Report those sites that are dangerous to local School Boards. Other drivers should be able to see the bus in plenty of time.

Using Flashing Red Warning Lights

A school bus has no special right-of-way privileges on highways except when picking up or discharging students. When you stop, you must use the **flashing red warning lights and the stop arm**.

All vehicles must stop no closer than 20 feet to a stopped school bus with flashing red warning lights and stop arm extended. The only exception is vehicles traveling in the opposite direction on a divided highway. Do not use flashing red warning lights where both sides of the road have curb and sidewalk, unless required by local ordinance.

School bus drivers are responsible for reporting incidents of drivers who do not stop for flashing red lights and an extended stop arm to appropriate enforcement agencies. Note time and location, license number, color and type of vehicle, weather and road conditions.

- **Loading/Unloading Procedures**

Any school bus driver approaching the front or rear of a stopped school bus that is displaying flashing red warning lights shall also display its flashing red warning lights while stopped. The following are stopped and loading/unloading procedures:

- Turn flashing red warning lights on at least 100 feet before the stop or sooner if conditions warrant.
- Determine if other drivers have observed flashing red warning lights and have time to stop.
- Stop in the farthest right driving lane.
- Activate the stop arm only after the bus has stopped and before opening the door.
- Use the stop arm only when the flashing red warning lights are used.
- Shift to neutral and apply foot brake to prevent the bus from accidentally moving.
- Recheck traffic.
- Open the door and count the students as they leave the bus.
- Students living on left side of road wait 10-12 feet in front of the bus.
- Those living on the right should move away from the bus immediately. **However, they should not move toward the rear of the bus.**
- Recheck mirrors.

After determining when it is safe to cross, give a clear hand signal to students while keeping a lookout for traffic. Choose a predetermined signal such as sounding the horn to warn if there is danger. Choose a signal that will not be misunderstood by the other drivers.

- Re-count the students who have been discharged.
- When you have accounted for all students, retract the stop arm and turn off signals.
- **Check crossover mirror and both outside rear view mirrors before starting.**
- Proceed when traffic allows.

Note: Use the same procedure guidelines for loading students, except instruct them to wait for a signal before crossing the road to the bus. Inform new students and remind all students of proper procedure at the beginning of each school year.

Do not use the flashing red warning lights when operating a school bus to transport adults or when a school bus is being used for non-school functions. When the bus is used for these situations, cover the words, "school bus" on the front and rear of the bus.

Without Flashing Red Warning Lights

If you are loading or discharging students in areas where flashing red warning lights are not required, follow these procedures:

- Activate the yellow hazard lights at least 100 feet before the stop.
- Move over to the right curb.
- Observe traffic carefully.
- Tell students to stand away from the road when waiting to board and to move away from the bus immediately after they get off.
- Instruct students who must cross the street to go to the cross walk and wait until it is safe to proceed.
- When students are safely aboard or unloaded, turn off the hazard warning lights and use the left turn signal to re-enter traffic. Teach students these procedures. Work with parents to promote safety.

Pick-up/Discharge On School Grounds

The pickup and discharge of students at the school grounds requires special planning to prevent injuries to children. Some rules for operating your school bus on school grounds are:

- Arrive before students are in the loading area at dismissal time.
- Drive slowly in and near the school loading area.
- Never back a bus on school grounds.
- Come to a complete stop before discharging students.
- Shift to neutral and apply foot brake.
- Supervise loading/unloading.

- ***WI. Exception:
If transporting children for any purpose, school bus markings may remain uncovered and flashing red lights used (s.346.48(2)(c), Wi. Stats.)***

- After boarding students, move out carefully.
- Do not pass other buses, remain in line.
- Maintain proper following distance behind other buses.

White Strobe Lights

The flashing white strobe light increases visibility in all types of weather. Its use does not require motorists to stop. It is required equipment on buses initially registered on or after Oct. 1, 1998; optional on buses registered before that date.

See Wisconsin Administrative Code (Trans 300) for additional information.

Backing a School Bus

Never back a school bus unless it is absolutely necessary, and then only if it is safe. The bus's size and design severely limit the driver's ability to see. Many school bus accidents occur while backing.

If you must back, know what is behind the bus. Ask a responsible student to move to the back seat of the bus and act as a guide. If no responsible student is available, the driver should walk around the bus before backing.

Turning Around

Like backing, turning around in a driveway is done only when necessary. Plan routes to reduce the need for this maneuver.

If you must turn around in a driveway, there are two methods. The driver is responsible for making the choice after evaluating the conditions. When **pulling into a driveway**:

- Signal the turn.
- Check traffic and yield to oncoming vehicles.
- Pull into the drive until the bus is straight.
- Pick up students before backing.
- Check traffic carefully.
- Use hazard warning lights.

When discharging students make sure they are safe before backing onto the highway. When **backing into a driveway**:

- Drive past the driveway to allow enough space to maneuver.
- Load students before backing into the driveway.
- Check traffic carefully. Allow traffic to pass.
- Use hazard warning lights.
- Back into drive.
- Discharge students after backing.
- Check traffic and yield to oncoming vehicles.
- Proceed out of the drive.

Either method requires some backing and seriously limits your ability to see. Never back when children are near.

Railroad Crossings

All school buses, loaded or empty, must stop at railroad crossings unless the tracks are posted "exempt" or "abandoned." The procedure for stopping at railroad crossings is:

- Check traffic before slowing.
- Turn on yellow hazard lamps at least 100 feet before the stop.
- Stop in the farthest right driving lane, no closer than 15 nor further than 50 feet from the nearest rails.
- Use foot brake to prevent the bus from moving.
- Ask passengers to be quiet.
- Completely open the service door (or driver's side window on vehicles without driver controlled service door) and listen carefully.
- Look left, then right.
- Recheck again. Never rely on railroad mechanical flashing lights.
- Select the lowest gear that will permit crossing the tracks without shifting.

The service door may be closed after the front wheels clear the first set of tracks. As soon as all tracks are crossed and before shifting gears, the service door must be closed. Turn off yellow hazard lights when you return to normal speed.

- **Handling Emergencies**

When crossing multiple tracks, stop between tracks when there is more than 15 feet between the front and rear of the bus and any tracks.

School bus drivers should prepare for unexpected situations. Carry emergency cards listing telephone numbers for the sheriff, local police, school officials, ambulance service and garage.

If possible, do not leave the children unattended. Give the card to two responsible children who will go for help. Select and train several students for this responsibility. Two way radios and cellular phones are valuable in emergency situations.

Following a crash or break-down, the school bus driver must decide whether to evacuate the students. They may be safer on the bus. If evacuation is necessary, select a safe place and supervise the unloading.

It is extremely important that the bus is visible in the event of a break-down or crash. To maximize your visibility:

- Move off roadway if possible.
- Activate the hazard lights and after dark, turn on the parking and clearance lights.
- Set out traffic warning devices.

Then account for all of your students and administer necessary first aid. Report school bus crashes immediately to a local law enforcement agency.

Fire

In the event of a fire from a collision or an equipment malfunction, follow this procedure:

- Evacuate the students.
- Set out traffic warning devices.
- Send two responsible children for help with the emergency cards.
- Attempt to put the fire out with the extinguisher.

- **Evacuation Procedures**

Each school bus driver should practice evacuation early in the school year and conduct periodic reviews of the procedure. Organize a safety patrol on each bus to assist in school bus evacuation and other emergencies.

Use the school grounds to conduct an evacuation drill using the front door only. To practice a drill using the service door and emergency exit, find an area where there is no traffic.

In an evacuation, calm the students and give them instructions. If the driver is unable to conduct the evacuation because of injury, the school patrol members should take over.

Front door evacuation procedure is:

- Students in the left front seat exit first following by those in the right front seat.
- Continue alternating from the front to the rear of the bus until all students are off.

Rear door evacuation procedure is:

- Assign two patrol members or older children to exit first and help the others out of the door.
- Students in the left rear seat exit first following by those in the right rear seat.
- Continue alternating until all students are off the bus.

If possible, use both doors for evacuation. Start at both doors alternating as above. Have the students assemble in one location immediately after the evacuation. Do not allow students to cross the road or re-enter the bus. Always account for all of the students.

Transporting persons with special needs or physical disabilities requires patience and understanding. Follow your company guidelines. Some general rules are:

- When raising or lowering persons on the power ramp, hold onto the wheel chair.
- Secure the wheel first and then the occupant.
- Know an individual's special health or behavioral problems.
- Practice vehicle evacuation.

Establish an understanding with the parents, guardians or other care givers on their involvement in loading and unloading the person at home. Work with the parents and school officials to determine the location for pick up and discharge. Do not leave your bus unattended to assist a person with special needs unless the engine is shut off and the keys are removed from the ignition.

4.9 Transporting Persons with Disabilities

Test Your Knowledge

1. What are some special rules for driving a school bus?
2. What are some general rules for backing a school bus?
3. What are the procedures for school buses at railroad crossings?
4. What are the procedures for discharging students?
5. What are the procedures for evacuating a school bus?

These questions may be on the test. If you can't answer them all, re-read Section 4.

4.10 Pre-Trip Inspection for School Bus

Each driver is required to make, and may be held accountable for, a pre-trip inspection of the bus to determine whether or not the vehicle is safe to operate on the highway. Review Section 10 of this manual for detailed information on pre-trip inspection. Additionally, school bus drivers must:

- Check stop arm control.
- Check operation of emergency door and buzzer.
- Check for properly equipped first aid kit.
- Activate headlights, white strobe light if bus is so equipped, hazard warning lights and red flashers, leave activated for exterior inspection.

You as a driver will be evaluated by driver licensing personnel on the inspection of the vehicle as part of the examination for original or renewal "S" (school bus) endorsement. You may use the CDL check list as a guide when performing the pre-trip inspection.

Driver license examining personnel will complete an examination report for school bus driver applicants. This report is to be returned to the school bus owner or contractor by the driver taking the examination.

See especially Section 10.3 at the end of this book.

Note: Studded snow tires are allowed on school buses between November 15th and April 1st.

s. 347.45(2)(c)2. Wis. Stats.

The Transportation of Pupils in School Buses and Other Vehicles

4.11 School Bus or Alternative Vehicle

School Bus Definition s.340.01(56).

A "SCHOOL BUS" is: (See chart for examples) A motor vehicle painted school bus yellow *when transporting*:

OR

- A motor vehicle carrying 10 or more passengers in addition to the operator *when transporting*:
- Pupils (K-12) to or from public, private, vocational, technical or adult school.
- Pupils (K-12) to or from curricular or extracurricular school activities (not-charter operation).
- Pupils (K-12) to or from religious instruction on days when school is in session.
- Children (under 21 years of age) with exceptional needs, to or from an education program approved by the Department of Public Instruction.
- Persons with disabilities or elderly persons in a vehicle **painted school bus yellow** in connection with any transportation assistance program.

Any vehicle which meets the definition of a school bus must be painted school bus yellow in accordance with Wis. Statute 347.44 and equipped in accordance with Admin. Rule Trans. 300.

School Bus Driver Requirements:

- The driver must have an "S" endorsement on his/her Wisconsin operator's license.
- Possess a valid Wisconsin operator's license of the appropriate class.
- Be at least 18 years of age.
- Have sufficient use of both hands and the foot normally used to operate the foot brake and foot accelerator correctly and efficiently.
- Meet the physical/medical standards for school bus endorsement referenced in Admin. Rule Trans. 112 by providing either a current federal medical card or an MV3030B (medical examination report for "S" or "P" endorsement).
- No **convictions** (within 2 year period immediately preceding the date of application) for:
 - Operating under the influence of alcohol or a controlled substance.
 - Refusal to submit to chemical testing.
 - Any offenses enumerated under s.343.32(1) and (2) (mandatory revocation).

- Operating a commercial motor vehicle (CMV) with an alcohol concentration (AC) of .04% or more but less than .10%.
- Causing injury to another person by operation of a CMV with an AC of .04% or more but less than .10%.
- Two or more offenses or a combination of: operating a CMV with an AC above 0.00%; or operating a CMV within 4 hours of having consumed any intoxicating beverage; or operating a CMV while possessing an intoxicating beverage.
- No convictions within the past 5 years of a felony or offense against public morals that may relate to the safety of children.

“SCHOOL BUS “ does NOT include: (See chart for examples)

- Vehicles owned or operated by a parent or guardian transporting his or her children regardless if there is any contract or paid compensation.
- “Alternative” vehicles (see below).
- A motor bus painted a color other than school bus yellow used for school-related curricular or extracurricular transportation (charter operation).
- A motor bus operated in an urban mass transit system.
- A yellow painted school bus used in a charter operation that is NOT school-related.
- A “human service vehicle” (s.340.01(23G) painted a color other than school bus yellow transporting persons with disabilities or elderly persons under any government transportation assistance program.

Additional School Bus Information

- A school bus may not tow a trailer.
- A school bus, motor bus or motor vehicle used in transportation for extracurricular activities must be under the immediate supervision of a competent adult.
- A school bus may not be used to transport more persons than can be seated on the permanently mounted seats facing forward without interfering with the operator.

Alternative Vehicle Definition s.121.555

A school board or governing body of a private school may provide pupil transportation services by the following alternative methods:

Use a motor vehicle not painted school bus yellow to transport 9 or less passengers in addition to the operator.

OR

For **emergency** transportation - **temporarily** use a motor vehicle, not painted school bus yellow, to transport 10 or more passengers, when the school board or governing body requests the Secretary of Transportation to determine that an emergency exists because no regular transportation is available.

Alternative Vehicle Driver Requirements

- Possess a valid Wisconsin operator's license or a valid license from another jurisdiction of the appropriate class and endorsement.
- Be at least 18 years of age.
- Have sufficient use of both hands and the foot normally used to operate the foot brake and foot accelerator correctly and efficiently.
- No convictions within the last 2 years for:
 - Operating under the influence of alcohol or a controlled substance.
 - Refusal to submit to chemical testing.
 - Reckless driving.
 - Any offenses enumerated under s.343.32(1) and (2) (mandatory revocation).
 - Operating a commercial motor vehicle (CMV) with a blood alcohol concentration (AC) of .04% or more but less than .10%.
 - Causing injury to another person by operation of a CMV with an AC of .04% or more but less than .10%.
 - Two or more offenses or a combination of: operating a CMV with an AC above 0.00%; or operating a CMV within 4 hours of having consumed any intoxicating beverage; or operating a CMV while possessing an intoxicating beverage.

(Example) Color of vehicle	# of People (including driver) Vehicle design (including driver) Vehicle GVWR (Gross Vehicle Weight Rating)	Type of Passenger	Transporting where and when	Required Driver License Class and "Endorsement"
(1) Yellow	15 or less (includes driver). Vehicle designed to carry less than 16 people 26,000 lbs or less GVWR.	K-12	To and from school or religious training during school hours, or school-related curricular or extracurricular activities.	D with "S"
(2) Yellow	16 or more (includes driver). Vehicle designed to carry 16 or more people 26,000 lbs or less GVWR.	K-12	To and from school or religious training during school hours, or school-related curricular or extracurricular activities.	C with "P" and "S"
(3) Yellow	16 or more (includes driver). Vehicle designed to carry 16 or more people 26,001 lbs or more GVWR.	K-12	To and from school or religious training during school hours, or school-related curricular or extracurricular activities.	B with "P" and "S"
(4) Yellow	15 or less (includes driver). Vehicle designed to carry less than 16 people 26,000 lbs or less GVWR.	Anyone	Non school-related transportation. Example: A club to a Brewer's game (charter trip).	D
(5) Yellow	16 or more (includes driver). Vehicle designed to carry 16 or more people 26,000 lbs or less GVWR.	Anyone	Non school-related transportation. Example: A scout group to a summer camp (charter trip).	C with "P"
(6) Yellow	16 or more (includes driver). Vehicle designed to carry 16 or more people 26,001 lbs or more GVWR.	Anyone	Non school-related transportation. Example: A club to a Badger football game (charter trip).	B with "P"
(7) Non-Yellow (Alternative Vehicle)	10 or less (includes driver). Vehicle designed to carry less than 16 people 26,000 lbs or less GVWR.	K-12	To and from any school function. Examples: Students from day care center to school. Student with disabilities to school.	D
(8) Non-Yellow	11 to 15 (includes driver). Vehicle designed to carry less than 16 people 26,000 lbs or less GVWR.	Anyone	Non school-related transportation. Example: Adult softball team to Badger State Games (charter trip).	D
(9) Non-Yellow	16 or more (includes driver). Vehicle designed to carry 16 or more people 26,000 lbs or less GVWR.	Anyone	Non school-related transportation. Example: A church group to a picnic (charter trip).	C with "P"
(10) Non-Yellow (charter bus)	16 or more (includes driver). Vehicle designed to carry 16 or more people 26,001 lbs or more GVWR.	K-12	Curricular or extracurricular school-related activities (charter trip).	B with "P"

Section 9: Hazardous Materials

Hazardous materials are products that pose a risk to health, safety, and property during transportation. The term often is shortened to HAZMAT, which you may see on road signs, or to HM in government regulations. Hazardous materials include explosives, various types of gas, solids, flammable and combustible liquid, and other materials. Because of the risks involved and the potential consequences these risks impose, the handling of hazardous materials is very heavily regulated by all levels of government.

The Hazardous Materials Regulations (HMR) are found in parts 171-180 of title 49 of the Code of Federal Regulations. The common reference for these regulations is 49 CFR 171-180.

The Hazardous Materials Table in these regulations contains a list of these items. However, this list is not all-inclusive. Whether or not a material is considered hazardous is based on its characteristics and the shipper's decision on whether or not the material meets a definition of a hazardous material in the regulations.

The regulations require vehicles transporting certain types or quantities of hazardous materials to display diamond-shaped, square-on-point, warning signs called placards.

This section is designed to assist you in understanding your role and responsibilities in hauling hazardous materials. Due to the constantly changing nature of government regulations, it is impossible to guarantee absolute accuracy of the materials in this section. An up-to-date copy of the complete regulations is essential for you to have. Included in these regulations is a complete glossary of terms.

You must have a commercial driver's license (CDL) with a hazardous materials endorsement before driving vehicles carrying hazardous materials which require placards. You must pass a knowledge test about the regulations and requirements to get this endorsement.

Everything you need to know to pass the knowledge test is in this section. However, this is only a beginning. Most drivers need to know much more on the job. You can learn more by reading and understanding the federal and state rules applicable to hazardous materials as well as attending hazardous materials training courses. These courses are usually offered by your employer, colleges and universities, and various associations. You get copies of the Federal Regulations (49 CFR) through your local Government Printing Office bookstore and various industry publishers. Union or company offices often have copies of the rules for driver use. Find out where you can get your own copy to use on the job.

This Section Covers

- ***The Intent of the Regulations***
- ***Driver Responsibilities***
- ***Communications Rules***
- ***Loading & Unloading***
- ***Bulk Tank Loading, Unloading, and Marking***
- ***Driving and Parking Rules***
- ***Emergencies***

The regulations require training and testing for all drivers involved in transporting hazardous materials. Your employer or a designated representative is required to provide this training and testing. Hazardous materials employers are required to keep a record of that training on each employee as long as that employee is working with hazardous materials, and for 90 days thereafter. The regulations require that hazardous materials employees be trained and tested at least once every two years.

The regulations also require that drivers have special training before driving a vehicle transporting certain flammable gas materials or highway route controlled quantities of radioactive materials. In addition, drivers transporting cargo tanks and portable tanks must receive specialized training. Each driver's employer or their designated representative must provide such training.

Some locations require permits to transport certain explosives or bulk hazardous wastes. States and counties also may require drivers to follow special hazardous materials routes. The federal government may require permits or exemptions for special hazardous materials cargo such as rocket fuel. Find out about permits, exemptions, and special routes for places you drive.

9.1 The Intent of the Regulations

- ***Contain the Material***

Transporting hazardous materials can be risky. The regulations are intended to protect you, those around you, and the environment. They tell shippers how to package the materials safely and drivers how to load, transport, and unload the material. These are called "containment rules."

- ***Communicate the Risk***

To communicate the risk, shippers must warn drivers and others about the material's hazards. The regulations require shippers to put hazard warning labels on packages, provide proper shipping papers, emergency response information, and placards. These steps communicate the hazard to the shipper, the carrier, and the driver.

- ***Assure Safe Drivers and Equipment***

In order to get a hazardous materials endorsement on a CDL, you must pass a written test about transporting hazardous materials. To pass the test, you must know how to:

- Identify what are hazardous materials.
- Safely load shipments.
- Properly placard your vehicle in accordance with the rules.
- Safely transport shipments.

Learn the rules and follow them. Following the rules reduces the risk of injury from hazardous materials. Taking shortcuts by breaking rules is unsafe. Rule breakers can be fined and put in jail.

Inspect your vehicle before and during each trip. Law enforcement officers may stop and inspect your vehicle. When stopped, they may check your shipping papers, vehicle placards, the hazardous materials endorsement on your driver's license, and your knowledge of hazardous materials.

The Shipper:

- Sends products from one place to another by truck, rail, vessel, or airplane.
- Uses the hazardous materials regulations to determine the product's:
 - Proper shipping name
 - Hazard class
 - Identification number
 - Correct packaging
 - Correct label and markings
 - Correct placards
- Must package, mark, and label the materials; prepare shipping papers; provide emergency response information; and supply placards.
- Certify on the shipping paper that the shipment has been prepared according to the rules (unless you are pulling cargo tanks supplied by you or your employer).

9.2 Hazardous Materials Transportation... Who Does What

- *The Shipper*

The Carrier:

- Takes the shipment from the shipper to its destination.
- Prior to transportation, checks that the shipper correctly described, marked, labeled, and otherwise prepared the shipment for transportation.
- Refuses improper shipments.
- Reports accidents and incidents involving hazardous materials to the proper government agency.

- *The Carrier*

The Driver:

- Makes sure the shipper has identified, marked, and labeled the hazardous materials properly.
- Refuses leaking packages and shipments.
- Placards his vehicle when loading, if required.
- Safely transports the shipment without delay.
- Follows all special rules about transporting hazardous materials.
- Keeps hazardous materials shipping papers and emergency response information in the proper place.

- *The Driver*

9.3 Communication Rules

- **Definitions**

Some words and phrases have special meanings when talking about hazardous materials. Some of these may differ from meanings you are used to. The words and phrases in this section may be on your test. The meanings of other important words are in the glossary at the end of Section 9.

A material's **hazard class** reflects the risks associated with it. There are 9 different hazard classes. Figure 9-1 tells the exact meaning of each hazard class. The types of materials included in these 9 classes are in the table below.

Class	Division	Name of Class or Division	Example
1	1.1	Mass Explosives	Dynamite
	1.2	Projection Hazards	Flares
	1.3	Mass Fire Hazards	Display Fireworks
	1.4	Minor Hazards	Ammunition
	1.5	Very Insensitive	Blasting Agents
	1.6	Extremely Insensitive	Explosive Devices
2	2.1	Flammable Gases	Propane
	2.2	Non-Flammable Gases	Helium
	2.3	Poisonous/Toxic Gases	Fluorine, Compressed
3	---	Flammable Liquids	Gasoline
4	4.1	Flammable Solids	Ammonium Picrate, Wetted
	4.2	Spontaneously Combustible	White Phosphorus
	4.3	Spontaneously Combustible When Wet	Sodium
5	5.1	Oxidizers	Ammonium Nitrate
	5.2	Organic Peroxides	Methyl Ethyl Ketone Peroxide
6	6.1	Poison (Toxic Material)	Potassium Cyanide
	6.2	Infectious Substances	Anthrax Virus
7	---	Radioactive	Uranium
8	---	Corrosives	Battery Fluid
9	---	Miscellaneous Hazardous Materials	Polychlorinated Biphenyls (PCB)
None	---	ORM-D (Other Regulated Material-Domestic)	Food Flavorings, Medicines
None	---	Combustible Liquids	Fuel Oil

Figure 9-1

Hazardous Materials Hazard Class/Division Table

A **shipping paper** describes the hazardous materials being transported. Shipping orders, bills of lading, and manifests are all shipping papers. Figure 9-6 shows an example shipping paper.

After an accident or hazardous materials spill or leak, you may be injured and unable to communicate the hazards of the materials you are transporting. Firefighters and police can prevent or reduce the amount of damage or injury at the scene if they know what hazardous materials are being carried. Your life, and the lives of others, may depend on quickly locating the hazardous materials shipping papers. For that reason the rules:

- Require shippers to describe hazardous materials correctly and include an emergency response telephone number on shipping papers.
- Require carriers and drivers to put tabs on hazardous materials shipping papers, or keep them on top of other shipping papers and keep the required emergency response information with the shipping papers.
- Require drivers to keep hazardous materials shipping papers:
 - In a pouch on the driver's door, or
 - In clear view within immediate reach while the seat belt is fastened while driving, or
 - On the driver's seat when out of the vehicle.

Shippers put diamond-shaped hazard warning labels on most hazardous materials packages. These labels inform others of the hazard. If the diamond label won't fit on the package, shippers may put the label on a tag securely attached to the package. For example, compressed gas cylinders that will not hold a label will have tags or decals. Labels look like the example in Figure 9-2.

- **Package Labels**

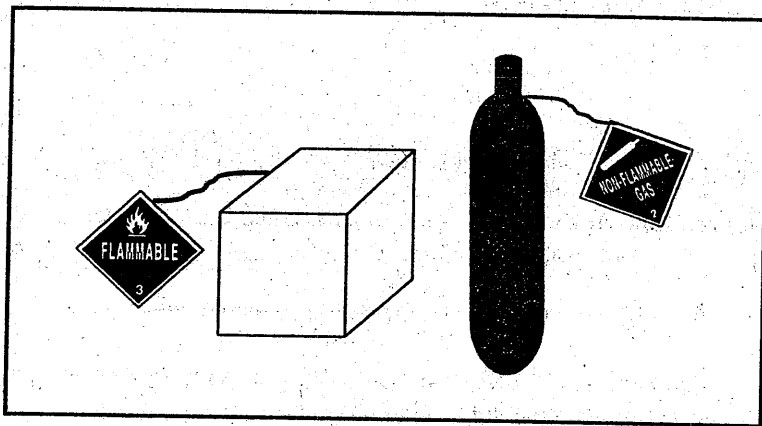


Figure 9-2
Example of Labels

Placards are used to warn others of hazardous materials. Placards are signs put on the outside of a vehicle which identify the hazard class of the cargo. A placarded vehicle must have at least 4 identical placards. They are put on the front, rear, and both sides of the vehicle (see Figure 9-3). Placards must be readable from all four directions. They are 10 3/4 inches square, square-on-point, in a diamond shape. Cargo tanks and other bulk packaging display the I.D. number of their contents on placards or orange panels or white square-on-point displays that are the same size as placards.

- **Lists of Regulated Products**

Hazardous material identification numbers may be displayed on placards or orange panels.

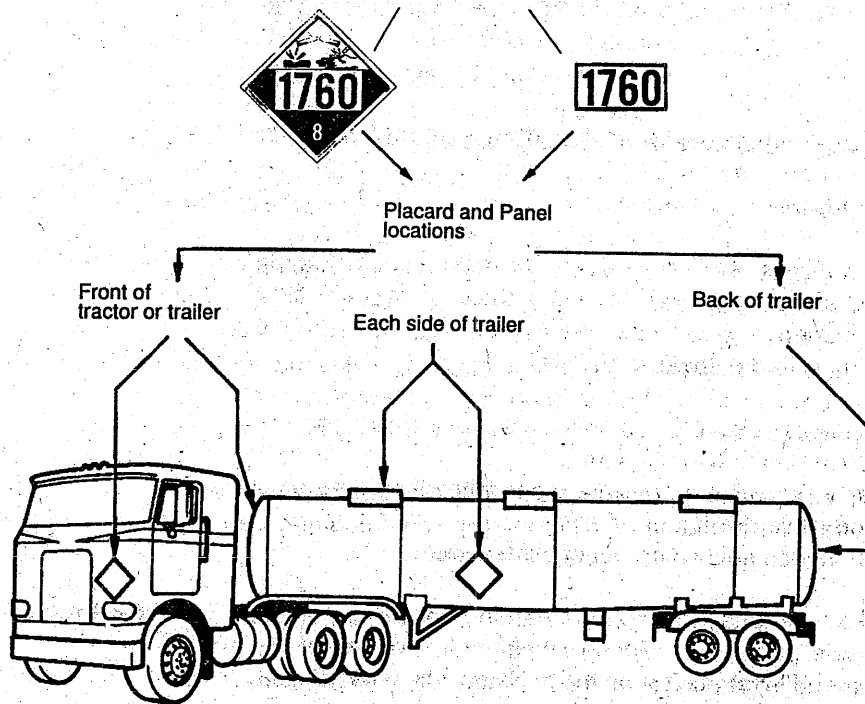


Figure 9-3

Placard and Panel Locations

There are three main lists used by shippers, carriers, and drivers when trying to identify hazardous materials. Before transporting a material, look for its name on three lists. Some materials are on all lists, others on only one. Always check the following lists:

- Section 172.101, the Hazardous Materials Table,
- Appendix A to Section 172.101, the List of Hazardous Substances and Reportable Quantities, and
- Appendix B to Section 172.101, the List of Marine Pollutants.

The Hazardous Materials Table. Figure 9-4 shows part of the Hazardous Materials Table. Column 1 tells which shipping mode(s) the entry affects and other information concerning the shipping description. The next five columns show each material's shipping name, hazard class or division, ID number, packaging group, and required labels.

Five different symbols may appear in Column 1 of the table.

- (+) Shows the proper shipping name, hazard class, and packing group to use, even if the material doesn't meet the hazard class definition.
- (A) Means the hazardous material described in Column 2 is subject to the HMR only when offered or intended for transport by air unless it is a hazardous substance or hazardous waste.
- (W) Means the hazardous material described in Column 2 is subject to the HMR only when offered or intended for transportation by water unless it is a hazardous substance, hazardous waste, or marine pollutant.
- (D) Means the proper shipping name is appropriate for describing materials for domestic transportation, but may not be proper for international transportation.
- (I) Identifies a proper shipping name that is used to describe materials in international transportation. A different shipping name may be used when only domestic transportation is involved.

Column 2 lists the proper shipping names and descriptions of regulated materials. Entries are in alphabetical order so you can more quickly find the right entry. The table shows proper shipping names in regular type. The shipping paper must show proper shipping names. Names shown in *italics* are not proper shipping names.

Column 3 shows a material's hazard class or division, or the entry "Forbidden." Never transport a "Forbidden" material. You placard shipments based on the quantity and hazard class. You can decide which placards to use if you know these three things:

- Material's hazard class.
- Amount being shipped.
- Amount of all hazardous materials of all classes on your vehicle.

Column 4 lists the identification number for each proper shipping name. Identification numbers are preceded by the letters "UN" or "NA." The letters "NA" are associated with proper shipping names that are only used within the United States and to and from Canada. The identification number must appear on the shipping paper as part of the shipping description and also appear on the package. It also must appear on cargo tanks and other bulk packaging. Police and firefighters use this number to quickly identify the hazardous materials.

§ 172.101 Hazardous Materials Table									
Symbols (1)	Hazardous materials descriptions and proper shipping names (2)	Hazard class or Division (3)	Identification Numbers (4)	Packing Group (5)	Label(s) required (if not excepted) (6)	Special provisions (7)	(8) Packaging authorizations (§ 173.***)		
							Exceptions (8A)	Non-bulk packaging (8B)	Bulk packaging (8C)
—	Poisonous, solids, self heating, n.o.s. ...	6.1	UN3124	I	POISON, SPONTANEOUSLY COMBUSTIBLE	A5	None	211	241

Figure 9-4

Part of the Hazardous Materials Table

Column 5 shows the packing group assigned to a material.

Column 6 shows the hazard warning label(s) shippers must put on packages of hazardous materials. Some products require use of more than one label due to a dual hazard being present. No label is needed where the table shows the word NONE.

Column 7 lists the additional (special) provisions that apply to this material. When there is an entry in this column, you must refer to the federal regulations for specific information.

Column 8 is a three-part column showing the section numbers covering the packaging requirements for each hazardous material.

Note: Columns 9 and 10 do not apply to transportation by highway.

Appendix A to §172.101 - The List of Hazardous Substances and Reportable Quantities. The DOT and the EPA want to know about spills of **hazardous substances**. They are named in the List of Hazardous Substances and Reportable Quantities (see Figure 9-5). Column 3 of the list shows each product's reportable quantity (RQ). When these materials are being transported in a reportable quantity or greater in one package, the shipper displays the letters RQ on the shipping paper and package. The letters RQ may appear before or after the basic description. You or your employer must report any spill of these materials which occurs in a **reportable quantity**.

If the words INHALATION HAZARD appear on the shipping paper or package, the rules require display of the POISON or POISON GAS placards, as appropriate. These placards must be used in addition to other placards which may be required by the product's hazard class. Always display the hazard class placard and the POISON placard, even for small amounts.

Spills of 10 pounds or more must be reported.

LIST OF HAZARDOUS SUBSTANCES AND REPORTABLE QUANTITIES - Continued		
Hazardous Substance	Synonyms	Reportable Quantity (RQ) Pounds (Kilograms)
Phenyl mercaptan @	Benzinethiol Thiophenol	100 (45.4)
Phenylmercuric acetate	Mercury, (acetato-0) phenyl	100 (45.4)
N-Phenylthiourea	Thiourea, phenyl	100 (45.4)
Phorate	Phosphorodithioic acid, O,O-diethyl S-(ethylthio), methylester	10 (4.54)
Phosgene	Carbonyl chloride	10 (4.54)
Phosphine	Hydrogen Phosphide	100 (45.4)
Phosphoric acid		5000 (2270)
Phosphroic acid, diethyl		
4-nitrophenyl ester	Diethyl-p nitrophenyl phosphate	100 (45.4)
Phosphoric acid, lead salt	Lead phosphate	1 (0.454)

Figure 9-5

List of Hazardous Substances

Test Your Knowledge
<ol style="list-style-type: none"> 1. Shippers package in order to (fill in the blank) the material. 2. Drivers placard their vehicle to (fill in the blank) the risk. 3. What three things do you need to know to decide which placards (if any) you need? 4. A hazardous materials ID number must appear on the (fill in the blank) and on the (fill in the blank). The identification number must also appear on cargo tanks and other bulk packagings. 5. Where must you keep shipping papers describing hazardous materials?
<p>These questions may be on your test. If you can't answer them all, re-read pages 9-1 through 9-9.</p>

The shipping paper shown in Figure 9-6 describes a shipment.
A shipping paper for hazardous materials must include:

• **The Shipping Paper**

- Page numbers if the shipping paper has more than one page. The first page must tell the total number of pages. For example, "Page 1 of 4."
- A proper shipping description for each hazardous material.
- A "shipper's certification," signed by the shipper, saying they prepared the shipment according to the rules.

• **The Item Description**

If a shipping paper describes both hazardous and non-hazardous products, the hazardous materials will be either:

- Described first, or
- Highlighted in a contrasting color, or
- Identified by an "X" placed before the shipping name in a column captioned "HM." The letters "RQ" may be used instead of "X" if a reportable quantity is present in one package.

The basic description of hazardous materials includes the proper shipping name, hazard class or division, the identification number, and the packing group, if any, in that order. The packing group is displayed in Roman numerals and may be preceded by "PG."

Shipping name, hazard class, and ID number must not be abbreviated unless specifically authorized in the hazardous materials regulations. The description must also show:

- The total quantity and unit of measure, and
- The letters RQ, if a reportable quantity.
- If the letters RQ appear, the name of the hazardous substance
- For "n.o.s." and generic descriptions, the technical name of the hazardous material.

"RQ" means that this is a reportable quantity

Hazard Class from Column 3 of the Table

Proper shipping name from Column 2 of the Hazardous

ID Number from Column 4 of the Hazardous Materials Table

SHIPPING PAPER		Page 1 of 1	
TO:	Wafers R US 88 Valley Street Silicon Junction, CA	FROM:	Essex Corporation 5775 Dawson Avenue Coleta, CA 93117
QTY	HM	DESCRIPTION	WEIGHT
1 cyl	RQ	Phosgene, 2.3, UN1076, Poison, Inhalation Hazard, Zone A	25 lbs
<p>This is to certify that the above named materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation.</p> <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p>Shipper: Essex Corp Per: Shultz Date: 6/27/88</p> </div> <div style="width: 45%;"> <p>Carrier: Knuckle Bros. Per: Date:</p> </div> </div>			

Figure 9-6

Example of Shipping Paper

Shipping papers also must list an emergency response telephone number. The emergency response telephone number is the responsibility of the shipper. It can be used by emergency responders to obtain information about any hazardous materials involved in a spill or fire.

Shippers also must provide emergency response information to the motor carrier for each hazardous material being shipped. The emergency response information must be able to be used away from the motor vehicle and must provide information on how to safely handle incidents involving the material. It must include information on the shipping name of the hazardous materials, risks to health, fire, explosion, and initial methods of handling spills, fires, and leaks of the materials.

Such information can be on the shipping paper or some other document that includes the basic description and technical name of the hazardous material. Or, it may be in a guidance book such as the Emergency Response Guidebook (ERG). Motor carriers may assist shippers by keeping an ERG on each vehicle carrying hazardous materials. The driver must provide the emergency response information to any federal, state, or local authority responding to a hazardous materials incident or investigating one.

Total quantity must appear before or after the basic description. The packaging type and the unit of measurement may be abbreviated. For example:

10 ctns. Paint, 3, UN1263, PG II, 500 lbs.

The shipper of hazardous wastes must put the word WASTE before the proper shipping name of the material on the shipping paper (hazardous waste manifest). For example:

Waste Acetone, 3, UN1090, PG 11.

A non-hazardous material may **not** be described by using a hazard class or an ID number.

When the shipper packages hazardous materials, he/she certifies that the package has been prepared according to the rules. The signed shipper's certification appears on the original shipping paper. The only exceptions are when a shipper is a private carrier transporting their own product and when the package is provided by the carrier (for example, a cargo tank). Unless a package is clearly unsafe or does not comply with the HMR, you may accept the shipper's certification concerning proper packaging. Some carriers have additional rules about transporting hazardous materials. Follow your employer's rules when accepting shipments.

- ***Shipper's Certification***

- **Package Markings and Labels**

Shippers print required markings directly on the package, an attached label, or tag. An important package marking is the name of the hazardous materials. It is the same name as the one on the shipping paper. When required, the shipper will put the following on the package:

- The name and address of shipper or consignee.
- The hazardous material's shipping name and ID number.
- The labels required.

If the rules require it, the shipper also will put RQ or INHALATION-HAZARD on the package. Packages with liquid containers inside will also have package orientation markings with the arrows pointing in the correct upright direction. The labels used always reflect the hazard class of the product. If a package needs more than one label, the labels will be close together, near the proper shipping name.

- **Recognizing Hazardous Materials**

Learn to recognize shipments of hazardous materials. To find out if the shipment includes hazardous materials, look at the shipping paper. Does it have:

- An entry with a proper shipping name, hazard class, and ID number?
- A highlighted entry, or one with an X or RQ in the hazardous materials column?

Other clues suggesting hazardous materials:

- What business is the shipper in? Paint dealer? Chemical supply? Scientific supply house? Pest control or agricultural supplier? Explosives, munitions, or fireworks dealer?
- Are there tanks with diamond labels or placards on the premises?
- What type of package is being shipped? Cylinders and drums are often used for hazardous materials shipments.
- Is a hazard class label, proper shipping name, or ID number on the package?
- Are there any handling precautions?

- **Hazardous Waste Manifest**

When transporting hazardous wastes, you must sign by hand and carry a Uniform Hazardous Waste Manifest. The name and EPA registration number of the shippers, carriers, and destination must appear on the manifest. Shippers must prepare, date, and sign by hand the manifest. Treat the manifest as a shipping paper when transporting the waste. Only give the waste shipment to another registered carrier or disposal/treatment facility. Each carrier transporting the shipment must sign by hand the manifest. After you deliver the shipment, keep your copy of the manifest. Each copy must have all needed signatures and dates, including those of the person to whom you delivered the waste.

Attach the appropriate placards to the vehicle before you drive it. You are only allowed to move an improperly placarded vehicle during an emergency, in order to protect life or property.

• **Placarding**

Placards must appear on both sides and ends of the vehicle. Each placard must be:

- Easily seen from the direction it faces.
- Placed so the words or numbers are level and read from left to right.
- At least 3 inches away from any other markings.
- Kept clear of attachments or devices such as ladders, doors, and tarpaulins.
- Kept clean and undamaged so that the color, format, and message are easily seen.

To decide which placards to use, you need to know:

- The hazard class of the materials.
- The amount of hazardous materials shipped.
- The total weight of all classes of hazardous materials in your vehicle.

Always make sure that the shipper shows the correct basic description on the shipping paper and verifies that the proper labels are shown on the packages. If you are not familiar with the material, ask the shipper to contact your office.

There are two placard tables, Table 1 and Table 2. Table 1 materials must be placarded whenever any amount is transported.

• **Placard Tables**

PLACARD TABLE 1 - ANY AMOUNT

IF YOUR VEHICLE CONTAINS ANY AMOUNT OF...	PLACARD AS...
1.1	EXPLOSIVE 1.1
1.2	EXPLOSIVE 1.2
1.3	EXPLOSIVE 1.3
2.3	POISON GAS
4.3	DANGEROUS WHEN WET
6.1 (PG I, inhalation hazard only)	POISON
7 (Radioactive Yellow III label only)	RADIOACTIVE

Except for bulk packagings, the hazard classes in Table 2 need placards only if the total amount transported is 1,001 lbs or more including the package. Add the amounts from all shipping papers for all the Table 2 products you have on board. You may use DANGEROUS placards instead of separate placards for each Table 2 hazard class when:

- You have 1,001 lbs or more of two or more Table 2 hazard classes, requiring different placards, and
- You have **not** loaded 5,000 lbs or more of any Table 2 hazard class material at any one place. (You must use the specific placard for this material.)

If the words INHALATION HAZARD are on the shipping paper or package, you must display POISON placards in addition to any other placards needed by the product's hazard class.

You need not use EXPLOSIVES 1.5, OXIDIZER, and DANGEROUS placards if a vehicle contains Division 1.1 or 1.2 explosives and is placarded with EXPLOSIVES 1.1 or 1.2 placards. You need not use a Division 2.2 NON-FLAMMABLE GAS placard on a vehicle displaying a Division 2.1 FLAMMABLE GAS or for oxygen a Division 2.2 OXYGEN placard.

Placards used to identify the primary hazard class of a material must have the hazard class or division number displayed in the lower corner of the placard. No hazard class or division number is allowed on placards used to identify a secondary hazard class of a material.

Placards may be displayed for hazardous materials even if not required, so long as the placard identifies the hazard of the material being transported.

PLACARD TABLE 2 - 1,001 LBS OR MORE

Category of Material (Hazard class or division number and additional description, as appropriate)	Placard Name
1.4	EXPLOSIVES 1.4
1.5	EXPLOSIVES 1.5
1.6	EXPLOSIVES 1.6
2.1	FLAMMABLE GAS
2.2	NON-FLAMMABLE GAS
3	FLAMMABLE
Combustible liquid	COMBUSTIBLE*
4.1	FLAMMABLE SOLID
4.2	SPONTANEOUSLY COMBUSTIBLE
5.1	OXIDIZER
5.2	ORGANIC PEROXIDE
6.1 (PG I or II, other than PG I inhalation hazard)	POISON
6.1 (PG III)	KEEP AWAY FROM FOOD
6.2	(NONE)
8	CORROSIVE
9	CLASS 9**
ORM-D	(NONE)

* FLAMMABLE placard may be used in place of a COMBUSTIBLE placard on a cargo tank or portable tank.

** Class 9 Placard is not required for domestic transportation.

Test Your Knowledge

1. What is a shipper's certification? Where does it appear? Who signs it?
2. When may non-hazardous materials be described by hazard class words or ID numbers?
3. Name five hazard classes that require placarding in any amount.
4. A shipment described on the Hazardous Waste Manifest may only be delivered to another (fill in the blank) carrier or treatment facility, which then signs the (fill in the blank) giving you a copy which you must keep.
5. Your load includes 20 lbs of Division 2.3 gas and 1,001 lbs of flammable gas. What placards do you need, if any?

These questions may be on your test. If you can't answer them all, re-read pages 9-7 through 9-9.

9.4 Loading and Unloading

- **General Loading Requirements**

- Do all you can to protect containers of hazardous materials. Don't use any tools which might damage containers or other packaging during loading. Don't use hooks.
- Before loading or unloading, set the parking brake. Make sure the vehicle will not move.
- Many products become more hazardous when exposed to heat. Load hazardous materials away from heat sources.
- Watch for signs of leaking or damaged containers: **LEAKS SPELL TROUBLE!** Do not transport leaking packages. Depending on the material, you, your truck, and others could be in danger.

Containers of Class 1 (explosives), Class 3 (flammable liquids), Class 4 (flammable solids), Class 5 (oxidizers), Class 8 (corrosives), Class 2 (gases), and Division 6.1 (poisons) must be braced to prevent movement of the packages during transportation.

No Smoking. When loading or unloading hazardous materials, keep fire away. Don't let people smoke nearby. Never smoke around:

Class 1 (EXPLOSIVES)	Division 2.1 (FLAMMABLE GAS)	Class 4 (FLAMMABLE SOLIDS)
Class 5 (OXIDIZERS)	Class 3 (FLAMMABLE LIQUIDS)	

Secure Against Movement. Brace containers so they will not fall, slide, or bounce around during transportation. Be very careful when loading containers that have valves or other fittings.

After loading, do not open any package during your trip. Never transfer hazardous materials from one package to another while in transit. You may empty a cargo tank, but do not empty any other package while it is on the vehicle.

Cargo Heater Rules. There are special cargo heater rules for loading:

Class 1 (EXPLOSIVES)	Class 3 (FLAMMABLE LIQUIDS)	Division 2.1 (FLAMMABLE GAS)
-------------------------	--------------------------------	---------------------------------

The rules usually forbid use of cargo heaters, including automatic cargo heater/air conditioner units. Unless you have read all the related rules, don't load the above products in a cargo space that has a heater.

Use closed cargo space. You cannot have overhang or tailgate loads of:

Class 1 (EXPLOSIVES)	Class 4 (FLAMMABLE SOLIDS)	Class 5 (OXIDIZERS)
-------------------------	-------------------------------	------------------------

You must load these hazardous materials into a closed cargo space unless all packages are:

- Fire and water resistant, or
- Covered with a fire and water resistant tarp.

Explosives. Turn your engine off before loading or unloading any explosives. Then check the cargo space. You must:

- Disable cargo heaters. Disconnect heater power sources and drain heater fuel tanks.
- Make sure there are no sharp points that might damage cargo. Look for bolts, screws, nails, broken side panels, and broken floor boards.
- Use a floor lining with Division 1.1, 1.2, or 1.3 (Class A or B explosives). The floors must be tight and the liner must be either non-metallic material or non-ferrous metal.

Use extra care to protect explosives. Never use hooks or other metal tools. Never drop, throw, or roll packages. Protect explosive packages from other cargo that might cause damage.

Do not transfer a Division 1.1, 1.2, or 1.3 (Class A or B explosive) from one vehicle to another on a public roadway except in an emergency. If safety requires an emergency transfer, set out red warning reflectors, flags, or electric lanterns. You must warn others on the road.

Never transport damaged packages of explosives. Do not take a package that shows any dampness or oily stain.

Do not transport Division 1.1 or 1.2 (Class A explosives) in triples or in vehicle combinations if:

- There is a marked or placarded cargo tank in the combination, or
- The other vehicle in the combination contains:
 - Division 1.1 A (initiating explosives)
 - Packages of Class 7 (radioactive) materials labeled "Yellow III,"
 - Division 2.3 (poisonous gas) or Division 6.1 (poisonous) materials
 - Hazardous materials in a portable tank, on a DOT Spec 106A or 110A tank

Class 8 (Corrosive) Materials. If loading by hand, load breakable containers of corrosive liquid one by one. Keep them right side up. Do not drop or roll the containers. Load them onto an even floor surface. Stack carboys only if the lower tiers can bear the weight of the upper tiers safely.

Do not load nitric acid above any other product, or stack more than two high.

- ***Precautions for Specific Hazards***

Load charged storage batteries so their liquid won't spill. Keep them right side up. Make sure other cargo won't fall against or short circuit them.

Never load corrosive liquids next to or above:

- Division 1.4 (Explosives C)
- Class 4 (Flammable Solids)
- Class 5 (Oxidizers)
- Division 2.3, Zone B (Poisonous Gases)

Never load corrosive liquids with:

- Division 1.1 or 1.2 (Explosives A)
- Division 1.2 or 1.3 (Explosives B)
- Division 1.5 (Blasting Agents)
- Division 2.3, Zone A (Poisonous Gases)
- Division 4.2 (Spontaneously Combustible Materials)
- Division 6.1, PGI, Zone A (Poison Liquids)

Class 2 (Compressed Gases) Including Cryogenic Liquids. If your vehicle doesn't have racks to hold cylinders, the cargo space floor must be flat. The cylinders must be:

- Held upright or braced laying down flat, or
- In racks attached to the vehicle, or
- In boxes that will keep them from turning over.

Division 2.3 (poisonous gas) or Division 6.1 (poisonous) materials. Never transport these materials in containers with interconnections. Never load a package labeled POISON or POISON GAS in the driver's cab or sleeper or with food material for human or animal consumption.

Class 7 (Radioactive) Materials. Some packages of Class 7 (radioactive) materials bear a number called the "transport index." The shipper labels these packages Radioactive II or Radioactive III, and prints the package's transport index on the label. Radiation surrounds each package, passing through all nearby packages. To deal with this problem, the number of packages you can load together is controlled. Their closeness to people, animals, and unexposed film is also controlled. The transport index tells the degree of control needed during transportation. The total transport index of all packages in a single vehicle must not exceed 50.

Appendix A to this section shows rules for each transport index. It shows how close you can load Class 7 (radioactive) materials to people, animals, or film. For example, you can't leave a package with a transport index of 1.1 within 2 feet of people or cargo space walls.

Mixed loads. The rules require some products to be loaded separately. You cannot load them together in the same cargo space. Figure 9-7 lists some examples. The regulations (the Segregation and Separation Chart) name other materials you must keep apart.

DO NOT LOAD...	IN THE SAME VEHICLE WITH...
Division 6.1 or 2.3 (POISON or poison gas labeled material)	animal or human food unless the poison package is overpacked in an approved way. Foodstuffs are anything you swallow. However, mouthwash, toothpaste, and skin creams are not foodstuff.
Division 2.3 (poisonous) gas Zone A or Division 6.1 (poison) liquids, PGI, Zone A	Division 5.1 (oxidizers), Class 3 (flammable liquids), Class 8 (corrosive liquids), Division 5.2 (organic peroxides), Division 1.1, 1.2, 1.3 (Class A or B) explosives, Division 1.5 (blasting agents), Division 2.1 (flammable gases), Class 4 (flammable solids).
Charged storage batteries	Division 1.1 (Class A Explosives).
Class 1 (Detonating primers)	any other explosives unless in authorized containers or packagings.
Division 6.1 (Cyanides or cyanide mixtures)	acids, corrosive materials, or other acidic materials which could release hydrocyanic acid from cyanides. For example: Cyanides , Inorganic, n.o.s. Silver Cyanide Sodium Cyanide
Nitric acid (Class 8)	other materials unless the nitric acid is not loaded above any other material and not more than two tiers high.

Figure 9-7

Prohibited Loading Combinations

Test Your Knowledge
<ol style="list-style-type: none"> 1. Around which hazard classes must you never smoke? 2. Which three hazard classes should not be loaded into a trailer that has a heater/air conditioner unit? 3. Should the floor liner required for Division 1.1 or 1.2 (Explosives A) be stainless steel? 4. At the shipper's dock you're given a paper for 100 cartons of battery acid. You already have 100 lbs. of dry Silver Cyanide on board. What precautions do you have to take? 5. Name a hazard class that uses transport indexes to determine the amount that can be loaded in a single vehicle.
<p>These questions may be on your test. If you can't answer them all, re-read Section 9.4.</p>

9.5 Bulk Packaging Marking, Loading & Unloading

The glossary at the end of this section gives the meaning of the word bulk. **Cargo tanks** are bulk packagings permanently attached to a vehicle. Cargo tanks remain on the vehicle when you load and unload them. **Portable tanks** are bulk containers which are not permanently attached to a vehicle. The product is loaded or unloaded while the portable tanks are off the vehicle. Portable tanks are then put on a vehicle for transportation. There are many types of cargo tanks in use. The most common cargo tanks are MC306 for liquids and MC331 for gases.

• **Markings**

You must display the ID number of the hazardous materials in portable tanks and cargo tanks and other bulk packagings (such as dump trucks). ID numbers are in column 4 of the Hazardous Materials Table. The rules require black 100 mm (3.9 inch) numbers on orange panels, placards, or a white, diamond-shaped background if no placards are required. Specification cargo tanks must show re-test date markings.

Portable tanks must also show the lessee or owner's name. They must also display the shipping name of the contents on two opposing sides. The letters of the shipping name must be at least 2 inches tall on portable tanks with capacities of more than 1,000 gallons and 1 inch tall on portable tanks with capacities of less than 1,000 gallons. The ID number must appear on each side **and** each end of a portable tank or other bulk packaging that hold 1000 gallons or more and on two opposing sides, if the portable tank holds less than 1,000 gallons. The ID numbers must still be visible when the portable tank is on the motor vehicle. If they are not visible, you must display the ID number on both sides and ends of the motor vehicle.

• **Tank Loading**

The person in charge of loading and unloading a cargo tank must be sure a qualified person is always watching. This person watching the loading or unloading must:

- Be alert.
- Have a clear view of the cargo tank.
- Be within 25 feet of the tank.
- Know of the hazards of the materials involved.
- Know the procedures to follow in an emergency, and
- Be authorized to move the cargo tank and able to do so.

Close all manholes and valves before moving a tank of hazardous materials, no matter how small the amount in the tank or how short the distance. Manholes and valves must be closed to prevent leaks.

• **Flammable Liquids**

Turn off your engine before loading or unloading any flammable liquids. Only run the engine if needed to operate a pump. Ground a cargo tank correctly before filling it through an open filling hole. Ground the tank before opening the filling hole, and maintain the ground until after closing the filling hole.

Keep liquid discharge valves on a compressed gas tank closed except when loading and unloading. Unless your engine runs a pump for product transfer, turn it off when loading or unloading. If you use the engine, turn it off after product transfer, before you unhook the hose. Unhook all loading/unloading connections before coupling, uncoupling, or moving a chlorine cargo tank. Always chock trailers and semi-trailers to prevent motion when uncoupled from the power unit.

- **Compressed Gas**

Test Your Knowledge
1. What are cargo tanks? 2. How is a portable tank different from a cargo tank? 3. Your engine runs a pump used during delivery of compressed gas. Should you turn off the engine before or after unhooking hoses after delivery?
These questions may be on your test. If you can't answer them all, re-read Section 9.5.

Never park with Division 1.1, 1.2, or 1.3 (Class A or B) explosives within 5 feet of the travelled part of the road. Except for short periods of time needed for vehicle operation necessities (e.g., fueling), do not park within 300 feet of:

- A bridge, tunnel, or building.
- A place where people gather, or
- An open fire.

If you must park to do your job, do so only briefly.

Don't park on private property unless the owner is aware of the danger. Someone must always watch the parked vehicle. You may let someone else watch it for you only if your vehicle is:

- On the shipper's property, or
- On the carrier's property, or
- On the consignee's property.

You are allowed to leave your vehicle unattended in a safe haven. A safe haven is an approved place for parking unattended vehicles loaded with explosives. Designation of authorized safe havens are usually made by local authorities.

You may park a placarded vehicle (not laden with explosives) within 5 feet of the travelled part of the road only if your work requires it. Do so only briefly. Someone must always watch the vehicle when parked on a public roadway or shoulder. Do not uncouple a trailer and leave it with hazardous materials on a public street. Do not park within 300 feet of an open fire.

9.6 Hazardous Materials... Driving & Parking Rules

- **Parking with Division 1.1, 1.2, or 1.3 (Class A or B) Explosives**

- **Parking A Placarded Vehicle Not Transporting Division 1.1, 1.2, or 1.3 (Class A or B) Explosives**

- **Attending Parked Vehicles**

The person attending a placarded vehicle must:

- Be in the vehicle, awake, and not in the sleeper berth, or within 100 feet of the vehicle and have it within clear view.
- Be aware of the hazards of the materials being transported.
- Know what to do in emergencies, and
- Be able to move the vehicle, if needed.

- **No Flares!**

You might break down and have to use stopped vehicle signals. Use reflective triangles or red electric lights. Never use burning signals, such as flares or fusees, around a:

- Tank used for Class 3 (flammable liquids) or Division 2.1 (flammable gas) whether loaded or empty.
- Vehicle loaded with Division 1.1, 1.2, or 1.3 (Class A or B) explosives.

- **Route Restrictions**

Some states and counties require permits to transport hazardous materials or wastes. They may limit the routes you can use. Local rules about routes and permits change often. It is your job as driver to find out if you need permits or must use special routes. Make sure you have all needed papers before starting.

If you work for a carrier, ask your dispatcher about route restrictions or permits. If you are an independent trucker and are planning a new route, check with state agencies where you plan to travel. Some localities prohibit transportation of hazardous materials through tunnels, over bridges, or other roadways. Check before you start.

Whenever placarded, avoid heavily populated areas, crowds, tunnels, narrow streets, and alleys. Take other routes, even if inconvenient, unless there is no other way. Never drive a placarded vehicle near open fires unless you can safely pass without stopping.

If transporting Division 1.1, 1.2, or 1.3 (Class A or B) explosives, you must have a written route plan and follow that plan. Carriers prepare the route plan in advance and give the driver a copy. You may plan the route yourself if you pick up the explosives at a location other than your employer's terminal. Write out the plan in advance. Keep a copy of it with you while transporting the explosives. Deliver shipments of explosives only to authorized persons or leave them in locked rooms designed for explosives storage.

A carrier must choose the safest route to transport placarded radioactive materials. After choosing the route, the carrier must tell the driver about the radioactive materials, and show the route plan.

Do not smoke within 25 feet of a placarded cargo tank used for Class 3 (flammable liquids) or Division 2.1 (gases). Also, do not smoke or carry a lighted cigarette, cigar, or pipe within 25 feet of any vehicle which contains:

Class 1	Class 3	Class 4	Class 5
EXPLOSIVES	FLAMMABLE LIQUIDS	FLAMMABLE SOLIDS	OXIDIZERS

Turn off your engine before fueling a motor vehicle containing hazardous materials. Someone must always be at the nozzle, controlling fuel flow.

The power unit of placarded vehicles must have a fire extinguisher with a UL rating of 10 B:C or more.

Make sure your tires are properly inflated. Check placarded vehicles with dual tires at the start of each trip and when you park. You must stop and check the tires every 2 hours or 100 miles, whichever is less. The only acceptable way to check tire pressure is to use a tire pressure gauge.

Do not drive with a tire that is leaking or flat except to the nearest safe place to fix it. Remove any overheated tire. Place it a safe distance from your vehicle. Don't drive until you correct the cause of the overheating. Remember to follow the rules about parking and attending placarded vehicles. They apply, even when checking, repairing, or replacing tires.

Do not accept a hazardous materials shipment without a properly prepared shipping paper. A shipping paper for hazardous materials must always be easily recognized. Other people must be able to find it quickly after an accident.

- Clearly distinguish hazardous materials shipping papers from others by tabbing them or keeping them on top of the stack of papers.
- When you are behind the wheel, keep shipping papers within your reach (with your seat belt on), or in a pouch on the driver's door. They must be easily seen by someone entering the cab.
- When not behind the wheel, leave shipping papers in the driver's door pouch or on the driver's seat.
- Emergency response information must be kept in the same location as the shipping paper.

A carrier must give each driver transporting Division 1.1, 1.2, or 1.3 (Class A or B) explosives a copy of Federal Motor Carrier Safety Regulations (FMCSR), Part 397. The carrier must also give written instructions on what to do if delayed or in an accident. The written instructions must include:

- **No Smoking**

- **Refuel With Engine Off**

- **10 B:C Fire Extinguisher**

- **Check Tires Every 2 Hours/100 Miles**

- **Where to Keep Shipping Papers and Emergency Response Information**

- **Papers for Division 1.1, 1.2 or, 1.3 (Class A or B) Explosives**

- The names and telephone numbers of people to contact (including carrier agents or shippers).
- The nature of the explosives transported.
- The precautions to take in emergencies such as fires, accidents, or leaks.

Drivers must sign a receipt for these documents.

You must be familiar with, and have in your possession while driving, the:

- Shipping papers.
- Written emergency instructions.
- Written route plan.
- A copy of FMCSR, Part 397.

- ***Equipment for Chlorine***

A driver transporting chlorine in cargo tanks must have an approved gas mask in the vehicle. The driver must also have an emergency kit for controlling leaks in dome cover plate fittings on the cargo tank.

- ***Stop Before Railroad Crossings***

Stop before a railroad crossing if your vehicle:

- Is placarded, or
- Carries any amount of chlorine, or
- Has cargo tanks, whether loaded or empty, used for hazardous materials.

You must stop 15 to 50 feet before the nearest rail. Proceed only when you are sure no train is coming. Don't shift gears while crossing the tracks.

No Smoking
Warn Others
Keep People Away
Avoid Contact or Inhaling

9.7 Hazardous Materials ..Emergencies

The Department of Transportation has a guidebook for firefighters, police, and industry workers on how to protect themselves and the public from hazardous materials. The guide is indexed by proper shipping name and hazardous materials identification number. Emergency personnel look for these things on the shipping paper. That is why it is vital that the proper shipping name, ID number, label, and placards are correct.

- *Emergency Response Guidebook (ERG)*

As a professional driver, your job at the scene of an accident is to:

- *Accidents/Incidents*

- Keep people away from the scene.
- Limit the spread of material, **only if you can safely do so.**
- Communicate the danger of the hazardous materials to emergency response personnel.
- Provide emergency responders with the shipping papers and emergency response information.

Follow this checklist:

- Check to see that your driving partner is OK.
- Keep shipping papers with you.
- Keep people far away and upwind.
- Warn others of the danger.
- Send for help.
- Follow your employer's instructions.

You might have to control minor truck fires on the road. **However, unless you have the training and equipment to do so safely, don't fight hazardous materials fires.** Dealing with hazardous materials fires requires special training and protective gear.

- *Fires*

When you discover a fire, send for help. You may use the fire extinguisher to keep minor truck fires from spreading to cargo before firefighters arrive. Feel trailer doors to see if they are hot before opening them. If hot, you may have a cargo fire and should not open the doors. Opening doors lets air in and may make the fire flare up. Without air, many fires only smolder until firemen arrive, doing less damage. If your cargo is already on fire, it is not safe to fight the fire. Keep the shipping papers with you to give to emergency personnel as soon as they arrive. **Warn other people of the danger and keep them away.**

If you discover a cargo leak, identify the hazardous materials leaking by using shipping papers, labels, or package location. **Do not touch any leaking material--many people injure themselves by touching hazardous materials.** Do not try to identify the material or find the source of a leak by smell. Toxic gases can destroy your sense of smell and can injure or kill you even if they don't smell. Never eat, drink, or smoke around a leak or spill.

If hazardous materials are spilling from your vehicle, do not move it any more than safety requires. You may move off the road and away from places where people gather, if doing so serves safety. Only move your vehicle if you can do so without danger to yourself or others.

Never continue driving with hazardous materials leaking from your vehicle in order to find a phone booth, truck stop, help, or similar reason. Remember, the carrier pays for the cleanup of contaminated parking lots, roadways, and drainage ditches. The costs are enormous, so don't leave a lengthy trail of contamination. If hazardous materials are spilling from your vehicle:

- Park it.
- Secure the area.
- Stay there.
- Send someone else for help.

When sending someone for help, give that person:

- A description of the emergency.
- Your exact location and direction of travel.
- Your name, the carrier's name, and the name of the community or city where your terminal is located.
- The proper shipping name, hazard class, and ID number of the hazardous materials, if you know them.

This is a lot for someone to remember. It is a good idea to write it all down for the person you send for help. The emergency response team must know these things to find you and to handle the emergency. They may have to travel miles to get to you. This information will help them to bring the right equipment the first time, without having to go back for it.

Never move your vehicle, if doing so will cause contamination or damage the vehicle. Keep downwind and away from roadside rests, truckstops, cafes, and businesses. Never try to repack leaking containers. Unless you have the training and equipment to repair leaks safely, don't try it. Call your dispatcher or supervisor for instructions and, if needed, emergency personnel.

Class 1 (Explosives). If your vehicle has a breakdown or accident while carrying explosives, warn others of the danger. Keep bystanders away. Do not allow smoking or open fire near the vehicle. If there is a fire, warn everyone of the danger of explosion.

Remove all explosives before separating vehicles involved in a collision. Place the explosives at least 200 feet from the vehicles and occupied buildings. Stay a safe distance away.

Class 2 (Compressed Gases). If compressed gas is leaking from your vehicle, warn others of the danger. Only permit those involved in removing the hazard or wreckage to get close. You must notify the shipper if compressed gas is involved in any accident.

Unless you are fueling machinery used in road construction or maintenance, do not transfer a flammable compressed gas from one tank to another on any public roadway.

Class 3 (Flammable Liquids). If you are transporting a flammable liquid and have an accident or your vehicle breaks down, prevent bystanders from gathering. Warn people of the danger. Keep them from smoking.

Never transport a leaking cargo tank farther than needed to reach a safe place. Get off the roadway if you can do so safely. Don't transfer flammable liquid from one vehicle to another on a public roadway except in an emergency.

Class 4 (Flammable Solids) and Class 5 (Oxidizing Materials). If a flammable solid or oxidizing material spills, warn others of the fire hazard. Do not open smoldering packages of flammable solids. Remove them from the vehicle if you can safely do so. Also, remove unbroken packages if it will decrease the fire hazard.

Class 6 (Poisonous Materials and Infectious Substances). It is your job to protect yourself, other people, and property from harm. Remember that many products classed as poison are also flammable. If you think a Division 2.3 (poison gases) or Division 6.1 (poison materials) might be flammable, take the added precautions needed for flammable liquids or gases. Do not allow smoking, open flame, or welding. Warn others of the hazards of fire, of inhaling vapors, or coming in contact with the poison.

A vehicle involved in a leak of Division 2.3 (Poison Gases) or Division 6.1 (Poisons) must be checked for stray poison before being used again.

If Division 6.2 (infectious substances) package is damaged in handling or transportation, you should immediately contact your supervisor. Packages which appear to be damaged or shows signs of leakage should not be accepted.

Class 7 (Radioactive Materials). If radioactive material is involved in a leak or broken package, tell your dispatcher or supervisor as soon as possible. If there is a spill, or if an internal container might be damaged, do not touch or inhale the material. Do not use the vehicle until it is cleaned and checked with a survey meter.

Class 8 (Corrosive Materials). If corrosives spill or leak during transportation, be careful to avoid further damage or injury when handling the containers. Parts of the vehicle exposed to a corrosive liquid must be thoroughly washed with water. After unloading, wash out the interior as soon as possible before reloading.

If continuing to transport a leaking tank would be unsafe, get off the road. If safe to do so, try to contain any liquid leaking from the vehicle. Keep bystanders away from the liquid and its fumes. Do everything possible to prevent injury to others.

- **Required Notification**

The National Response Center helps coordinate emergency response to chemical hazards. It is a resource to the local police and firefighters. It maintains a 24-hour toll-free line. You or your employer must phone when **any** of the following occur **as a direct result of a hazardous materials incident**:

- A person is killed.
- An injured person requires hospitalization.
- Estimated property damage exceeds \$50,000.
- The general public is evacuated for one or more hours.
- One or more major transportation arteries or facilities are closed or shut down for one hour or more.
- Fire, breakage, spillage, or suspected radioactive contamination occurs.
- Fire, breakage, spillage or suspected contamination occurs involving shipment of etiologic agents (bacteria or toxins).
- A situation exists of such a nature (e.g., continuing danger to life exists at the scene of an incident) that, in the judgment of the carrier, should be reported.

**National Response Center
1-(800) 424-8802**

Persons telephoning the National Response Center should be ready to give:

- Their name.
- Name and address of the carrier they work for.
- Phone number where they can be reached.
- Date, time, and location of incident.
- The extent of injuries, if any.
- Classification, name, and quantity of hazardous materials involved, if such information is available.
- Type of incident and nature of hazardous materials involvement and whether a continuing danger to life exists at the scene.

If a reportable quantity of hazardous substance was involved, the caller should give the name of the shipper and the quantity of the hazardous substance discharged.

Be prepared to give your employer the required information as well. Carriers must make detailed written reports within 30 days of an incident.

Call 911 to alert law authorities.

911

The Chemical Transportation Emergency Center (CHEMTREC) in Washington also has a 24-hour toll-free line. CHEMTREC was created to provide emergency personnel with technical information about the physical properties of hazardous materials. The National Response Center and CHEMTREC are in close communication. If you call either one, they will tell the other about the problem when appropriate.

**CHEMTREC
(800) 424-9300**

Test Your Knowledge

1. If your placarded trailer has dual tires, how often should you check the tires?
2. What is a safe haven?
3. How close to the travelled part of the roadway can you park with Division 1.2 or 1.3 (Explosive B)?
4. How close can you park to a bridge, tunnel, or building with the same load?
5. What type of fire extinguisher must placarded vehicles carry?
6. You're hauling 100 lbs of **Division 4.3 (dangerous when wet)** material. Do you need to stop before railroad crossings?
7. At a rest area you discover your hazardous materials shipments slowly leaking from the vehicle. There's no phone around. What should you do?
8. What is the Emergency Response Guide (ERG)?

These questions may be on your test. If you can't answer them all, re-read Sections 9.6 and 9.7.

Table A**Radioactive Separation Table**

(Note: You will not be tested on the numbers in this table.)

Do not leave radioactive yellow - II or yellow - III labeled packages near people, animals, or film longer than shown in this table.

TOTAL TRANSPORT INDEX	MINIMUM DISTANCE IN FEET TO NEAREST UNDEVELOPED FILM					TO PEOPLE OR CARGO COMPARTMENT PARTITIONS
	0-2 Hours	2-4 Hours	4-8 Hours	8-12 Hours	Over 12 Hours	
None	0	0	0	0	0	0
0.1 to 1.0	1	2	3	4	5	1
1.1 to 5.0	3	4	6	8	11	2
5.1 to 10.0	4	6	9	11	15	3
10.1 to 20.0	5	8	12	16	22	4
20.1 to 30.0	7	10	15	20	29	5
30.1 to 40.0	8	11	17	22	33	6
40.1 to 50.0	9	12	19	24	36	

Table B**Table of Hazard Class Definitions**

(Note: You will not be tested on this table.)

Kinds of Hazardous Materials

Hazardous materials are categorized into nine major hazard classes and additional categories for consumer commodities and combustible liquids. The classes of hazardous materials are as follows:

CLASS	CLASS NAME	EXAMPLE
1	Explosives	Ammunition, Dynamite, Fireworks
2	Gases	Propane, Oxygen, Helium
3	Flammable	Gasoline Fuel, Acetone
4	Flammable Solids	Matches, Fusees
5	Oxidizers	Ammonium Nitrate, Hydrogen Peroxide
6	Poisons	Pesticides, Arsenic
7	Radioactive	Uranium, Plutonium
8	Corrosives	Hydrochloric Acid, Battery Acid
9	Miscellaneous Hazardous Materials	Formaldehyde, Asbestos
None	ORM-D (Other Regulated Material-Domestic)	Hair Spray or Charcoal
None	Combustible Liquids	Fuel Oils, Lighter Fluid

Hazardous Materials Glossary

This glossary presents definitions of certain terms used in this section. A complete glossary of terms can be found in the federal Hazardous Materials Rules (49 CFR 171.8). You should have an up-to-date copy of these rules for your reference.

(Note: You will not be tested on this glossary.)

Sec. 171.8 Definitions and abbreviations.

Bulk packaging means a packaging, other than a vessel, or a barge, including a transport vehicle or freight container, in which hazardous materials are loaded with no intermediate form of containment and which has:

- (1) A maximum capacity greater than 450 L (119 gallons) as a receptacle for a liquid;
- (2) A maximum net mass greater than 400 kg (882 pounds) or a maximum capacity greater than 450 L (119 gallons) as a receptacle for a solid; or
- (3) A water capacity greater than 454 kg (1000 pounds) as a receptacle for a gas as defined in Sec. 173.115.

Cargo tank means a bulk packaging which:

- (1) Is a tank intended primarily for the carriage of liquids or gases and includes appurtenances, reinforcements, fittings, and closures (for "tank," see 49 CFR 178.345-1(c), 178.337-1, or 178.338-1, as applicable);
- (2) Is permanently attached to or forms a part of a motor vehicle, or is not permanently attached to a motor vehicle but which, by reason of its size, construction, or attachment to a motor vehicle is loaded or unloaded without being removed from the motor vehicle; and
- (3) Is not fabricated under a specification for cylinders, portable tanks, tank cars, or multi-unit tank car tanks.

Carrier means a person engaged in the transportation of passengers or property by:

- (1) Land or water as a common, contract, or private carrier, or
- (2) Civil aircraft.

Consignee means the business or person to whom a shipment is delivered.

Division means a subdivision of a hazard class.

EPA means U.S. Environmental Protection Agency.

FMCSR means the Federal Motor Carrier Safety Regulations.

Freight container means a reusable container having a volume of 64 cubic feet or more, designed and constructed to permit being lifted with its contents intact and intended primarily for containment of packages (in unit form) during transportation.

Fuel tank means a tank, other than a cargo tank, used to transport flammable or combustible liquid or compressed gas for the purpose of supplying fuel for propulsion of the transport vehicle to which it is attached, or for the operation of other equipment on the transport vehicle.

Gross weight or Gross mass means the weight of a packaging plus the weight of its contents.

Hazard class means the category of hazard assigned to a hazardous material under the definitional criteria of Part 173 and the provisions of the Sec. 172.101 Table. A material may meet the defining criteria for more than one hazard class but is assigned to only one hazard class.

Hazardous materials means a substance or material which has been determined by the Secretary of Transportation to be capable of posing an unreasonable risk to health, safety, and property when transported in commerce, and which has been so designated. The term includes hazardous substances, hazardous wastes, marine pollutants, and elevated temperature materials as defined in this section, materials designated as hazardous under the provisions of Sec. 172.101 and 172.102, and materials that meet the defining criteria for hazard classes and divisions in Part 173.

Hazardous substance means a material, including its mixtures and solutions, that:

- (1) Is listed in Appendix A to Sec. 172.101;
- (2) Is in a quantity, in one package, which equals or exceeds the reportable quantity (RQ) listed in Appendix A to Sec. 172.101; and
- (3) When in a mixture or solution -
 - (i) For radionuclides, conforms to paragraph 6 of Appendix A to Sec. 172.101.
 - (ii) For other than radionuclides, is in a concentration by weight which equals or exceeds the concentration corresponding to the RQ of the material, as shown in the following table:

RQ POUNDS (KILOGRAMS)	CONCENTRATION BY WEIGHT	
	Percent	PPM
5,000 (2270)	10	100,000
1,000 (454)	2	20,000
100 (45.4)	0.2	2,000
10 (4.54)	0.02	200
1 (0.454)	0.002	20

This definition does not apply to petroleum products that are lubricants or fuels (see 40 CFR 300.6).

Hazardous waste, for the purposes of this chapter, means any material that is subject to the Hazardous Waste Manifest Requirements of the U.S. Environmental Protection Agency specified in 40 CFR Part 262.

Limited quantity, when specified as such in a section applicable to a particular material, means the maximum amount of a hazardous materials for which there may be specific labeling or packaging exception.

Marking means the descriptive name, identification number, instructions, cautions, weight, specification, or UN marks or combinations thereof, required by this subchapter on outer packagings of hazardous materials.

Mixture means a material composed of more than one chemical compound or element.

Name of contents means the proper shipping name as specified in Sec. 172.101.

Non-bulk packaging means a packaging which has:

(1) A maximum capacity of 450 L (119 gallons) as a receptacle for a liquid;

(2) A maximum net mass less than 400 kg (882 pounds) and a maximum capacity of 450 L (119 gallons) or less as a receptacle for a solid; or

(3) A water capacity greater than 454 kg (1,000 pounds) or less as a receptacle for a gas as defined in Sec. 173.115.

N.O.S. means not otherwise specified.

Outage or ullage means the amount by which a packaging falls short of being liquid full, usually expressed in percent by volume.

Portable tank means a bulk packaging (except a cylinder having a water capacity of 1000 pounds or less) designed primarily to be loaded onto, or on, or temporarily attached to a transport vehicle or ship and equipped with skids, mountings, or accessories to facilitate handling of the tank by mechanical means. It does not include a cargo tank, tank car, multi-unit tank car tank, or trailer carrying 3AX, 3AAX, or 3T cylinders.

Proper shipping name means the name of the hazardous materials shown in Roman print (not italics) in Sec. 172.101.

P.s.i. or psi means pounds per square inch.

P.s.i.a. or psia means pounds per square inch absolute.

Reportable quantity (RQ) means the quantity specified in Column 3 of the Appendix to Sec. 172.101 for any material identified in Column 1 of the Appendix.

RSPA means the Research and Special Programs Administration, U.S. Department of Transportation, Washington, DC 20590.

Shipper's certification means a statement on a shipping paper, signed by the shipper, saying he/she prepared the shipment properly according to law.

"This is to certify that the above named materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation according to the applicable regulations or the Department of Transportation." or "I hereby declare that the contents of this consignment are fully and accurately described above the proper shipping name and are classified, packed, marked and labeled, and are in all respects in proper condition for transport by * according to applicable international and national government regulations."

* words may be inserted here to indicate mode of transportation (rail, aircraft, motor vehicle, vessel)

Shipping paper means a shipping order, bill of lading, manifest, or other shipping document serving a similar purpose and containing the information required by Sec. 172.202, 172.203, and 172.204.

Technical name means a recognized chemical name or microbiological name currently used in scientific and technical handbooks, journals, and texts.

Transport vehicle means a cargo-carrying vehicle such as an automobile, van, tractor, truck, semi-trailer, tank car, or rail car used for the transportation of cargo by any mode. Each cargo-carrying body (trailer, rail car, etc.) is a separate transport vehicle.

UN standard packaging means a specification packaging conforming to the requirements in Subpart L and M of Part 178.

UN means United Nations.

Section 10: Pre-Trip for School Bus

Emergency Equipment

10.3 School Bus Only

- In addition to checking for spare electrical fuses (if equipped), three red reflective triangles, and a properly charged and rated fire extinguisher, school bus drivers must also inspect the following emergency equipment:
 - A sixteen-item first-aid kit, per Trans 300.42, Wis. Adm. Code.

Lighting Indicators

- In addition to checking the lighting indicators listed in Section 10.2 of this manual, school bus drivers must also check the following lighting indicators (internal panel lights):
 - Alternately flashing amber lights indicator, if equipped.
 - Alternately flashing red lights indicator.
 - Strobe light indicator, if equipped.

Lights/Reflectors

- In addition to checking the lights and reflective devices listed in Section 10.2 of this manual, school bus drivers must also check the following (external) lights and reflectors:
 - Strobe light, if equipped.
 - Stop arm light, if equipped.
 - Alternately flashing amber lights, if equipped.
 - Alternately flashing red lights.

Stop Arm

- If equipped, check the stop arm to see that it is mounted securely to the frame of the vehicle. Also, check for loose fittings and damage.

Passenger Entry/Lift

- Check that the entry door is not damaged, operates smoothly, and closes securely from the inside.
- Hand rails are secure and the step light is working, if equipped.
- The entry steps must be clear with the treads not loose or worn excessively.
- If equipped with a lift for the disabled, look for leaking, damaged, or missing parts and explain how lift should be checked for correct operation. Lift must be fully retracted and latched securely.

Emergency Exit

- Make sure that all emergency exits are not damaged, operate smoothly, and close securely from the inside.
- Check that any emergency exit warning devices are working.

Seating

- Look for broken seat frames and check that seat frames are firmly attached to the floor.
- Check that seat cushions are attached securely to the seat frames.

Vehicle Inspection Memory Aids (Key Locations To Inspect)

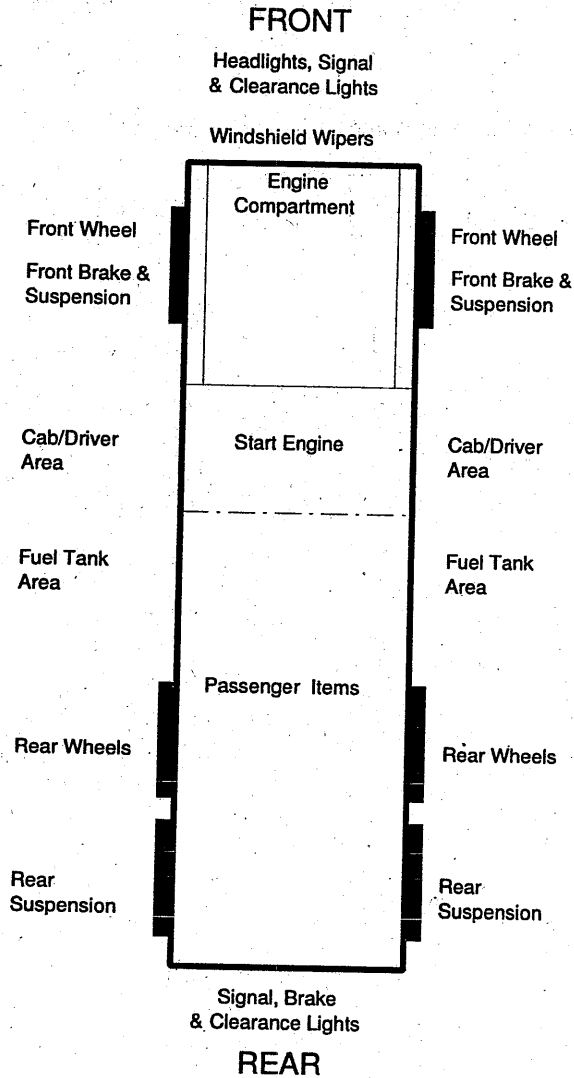


Figure 2-5 Straight Truck/School Bus

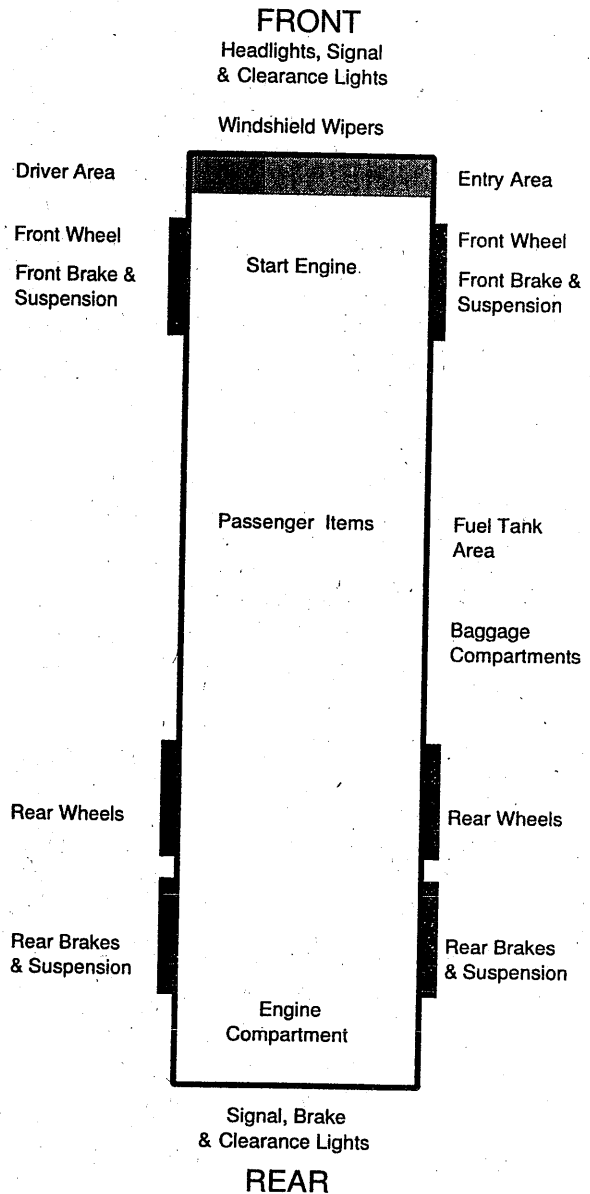
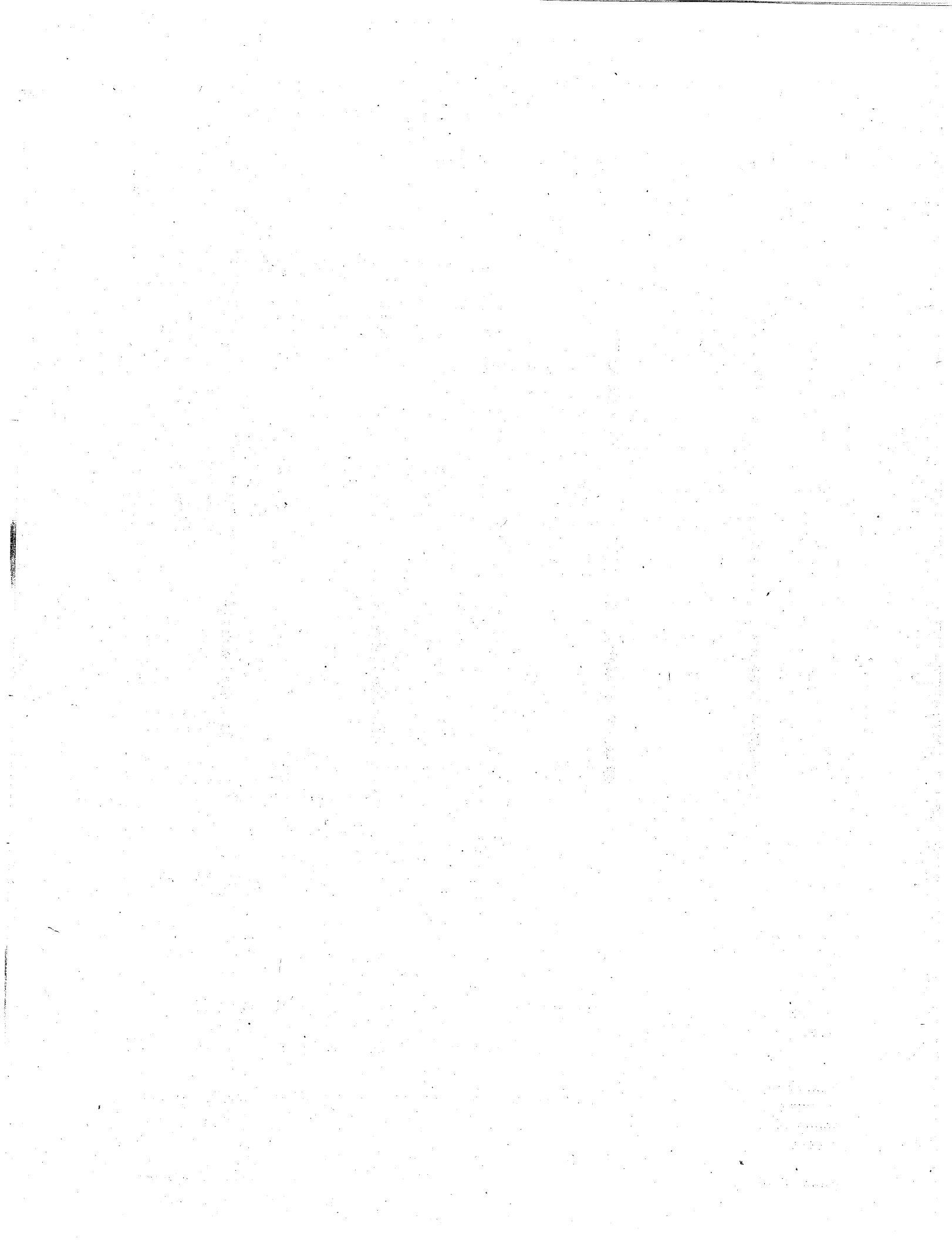


Figure 2-6 Coach/Transit Bus

Safety note: Always put vehicle key in your pocket -- or someone might move the vehicle while you are checking underneath it.



Vehicle Inspection Memory Aid

ALL VEHICLES

Engine Compartment

any leaks
oil level
coolant level
power steering fluid
water pump belt
alternator belt
air compressor

Cab Check/Engine Start

clutch/gearshift
temperature gauge
oil pressure gauge
ammeter/voltmeter
steering play
mirrors
windshield

Lights/Reflectors

vehicle front
vehicle rear
trailer front
trailer side
trailer side

wipers
lighting indicators
horn(s)
heater/defroster
safety/emerg equip
airbrake check
parking brake check

TRUCK/TRACTOR/SCHOOL BUS

TRAILER

COACH/TRANSITBUS

Steering

steering box
steering linkage

Front Suspension

spring
spring mount
shock absorber

Front Wheel

rims
hub oil seal
tires
lug nuts

Front Brakes

slack adjustor
chamber
hoses

Driver/Fuel Area

door, mirror
fuel tank

Rear Wheels

rims
tires
axle seals
lug nuts
(spacers)

Rear Suspension

springs/torsion
spring mounts
shocks

Rear Brakes

slack adjustor
chamber
hoses

Under Vehicle

Rear of Vehicle
drive shaft
exhaust system
frame (splash
guards)

Tractor Only

air/elec lines
catwalk
Coupling System
mounting bolts
locking jaws
platform
release arm
kingpin/apron/gap
Sliding 5th Wheel
locking pins

School Bus Only

passenger entry
emergency exits
seating

Trailer Front

air/elec connect
(heater board)

Side of Trailer

landing gear
(doors, ties)
frame

Wheels

rims
tires
axle seals
lug nuts
(spacers)

Suspension

springs
spring mounts

Brakes

slack adjustor
chamber

Rear of Trailer

doors, ties
splash guards
(tandem release
arm/locking pins)

Passenger Items

passenger entry
emergency exits
seating

Driver/Entry Area

window/door mirror

Front Suspension

air leaks

Front Wheel

rims
hub oil seal
tires
lug nuts

Fuel Tank Area

fuel tanks

Baggage Compartments

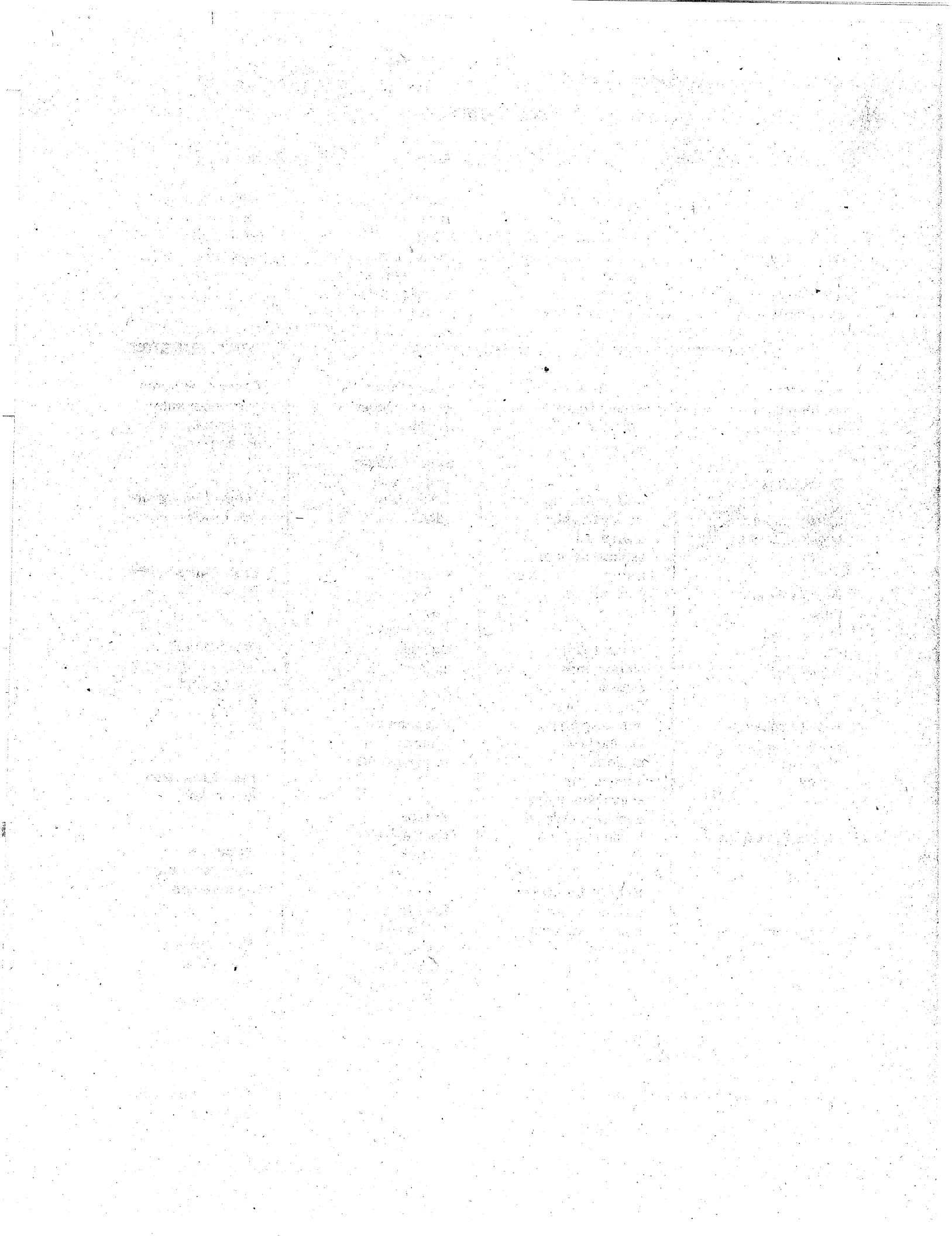
door secure

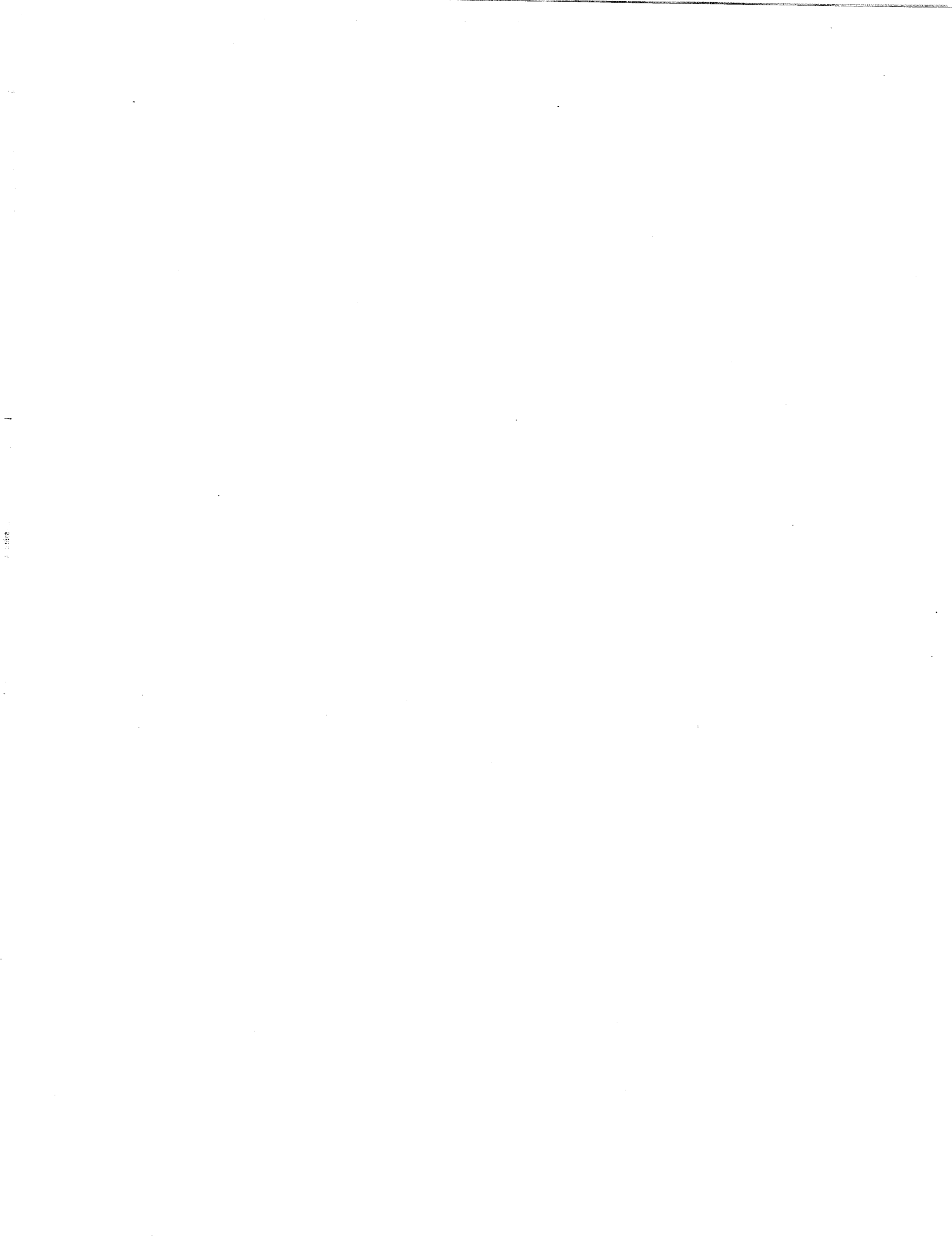
Rear Wheels

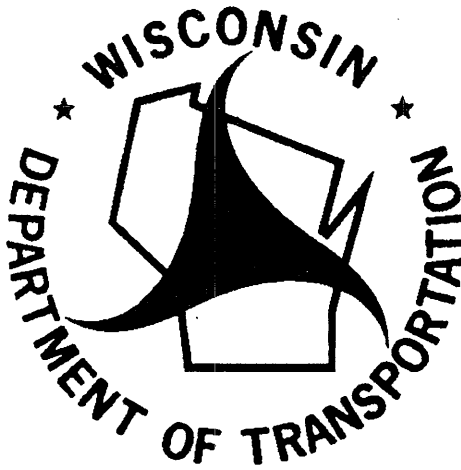
hoses/rims
tires
axle seals
lug nuts
(spacers)

Rear Suspension

air leaks







**Wisconsin Department of Transportation
Division of Motor Vehicles
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Madison, Wisconsin 53702**

**BDS 121 698
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