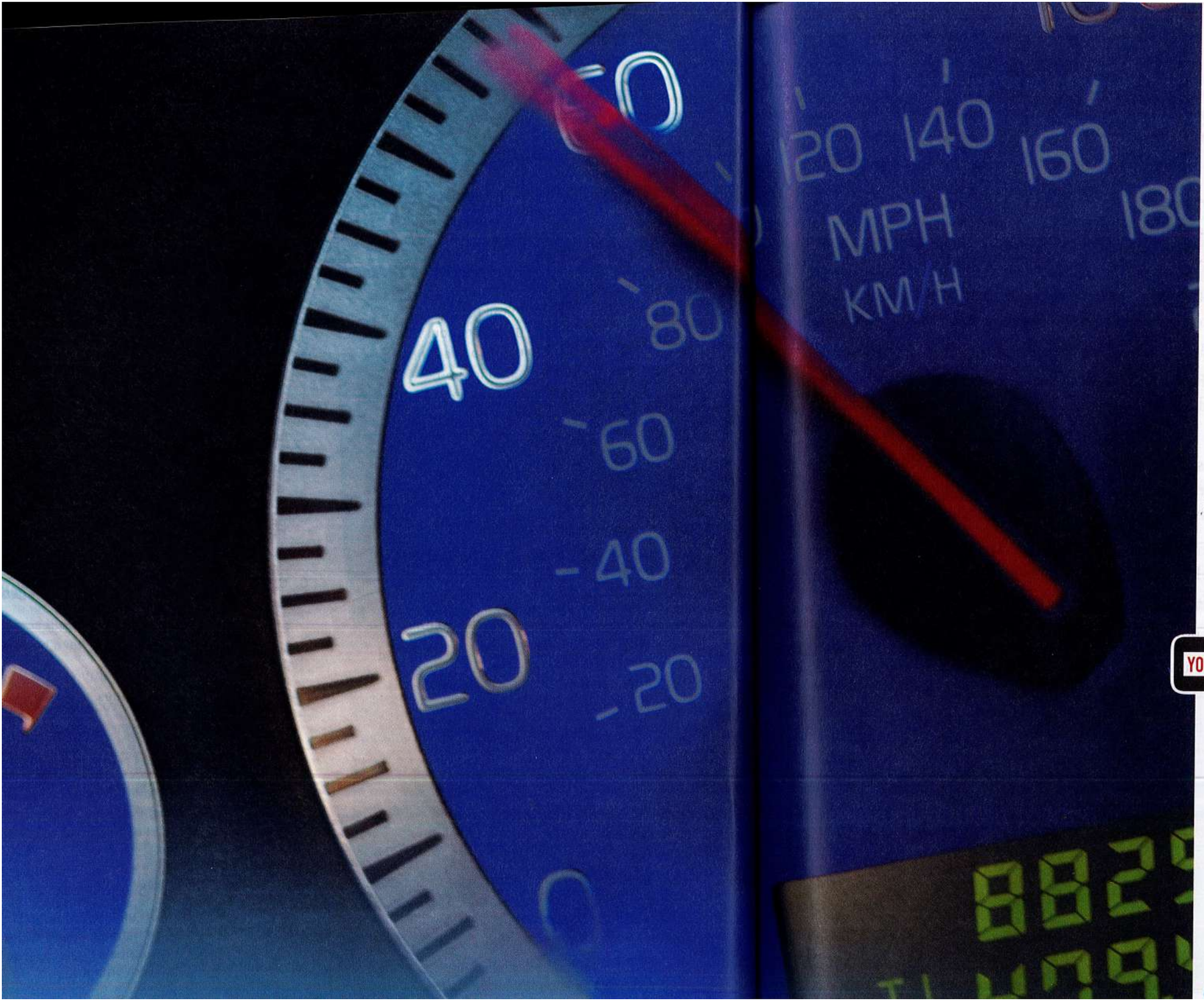

chapter 3

BASIC VEHICLE OPERATION

KEY IDEA

What is the safest way to get in and out of a vehicle, and how do you check for problems before putting the vehicle into motion? What do you need to learn before you pull into traffic for the first time?

YOU'RE THE DRIVER

To become a proficient driver, you need to know the basic operational controls of your vehicle. Do you know how target usage affects steering control? Do you know how to start and stop the motion of the vehicle in a smooth manner? Can you correctly read the instruments to prevent costly damage to your vehicle?

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OLS, DEVICES, AND INSTRUMENTS

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ABULARY

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Vehicle Controls

The characteristics and locations of vehicle controls vary from one model to another. However, each control performs the same function in each vehicle.

Steering Wheel (1) The steering wheel turns the front wheels. To steer the vehicle you need to have speed control. With too much speed, the car will go straight even though the tires are turned.

Adjustable Steering Position (2) Some vehicles have options available to help a driver fit behind the steering wheel. Refer to your owner's manual for more information,

Shift Lever (3) The **shift lever** is used to select a gear. The shift lever is most commonly located on the steering column or on the console. The console is the compartment mounted between the front seats.

Cruise Control (4) The **cruise control** device lets you maintain your desired speed without keeping your foot on the accelerator.

Accelerator Pedal (5) The accelerator pedal, located to the right of the brake pedal, is pushed down to increase speed.

Brake Pedal (6) Pushing down on the brake pedal slows or stops the vehicle. Depressing this pedal also turns on the brake lights.

Parking Brake (7) The parking brake keeps the vehicle in place when it is parked. In many cars, the parking brake is a foot-operated pedal located on the far left. Push this pedal down with your foot to set the brake.

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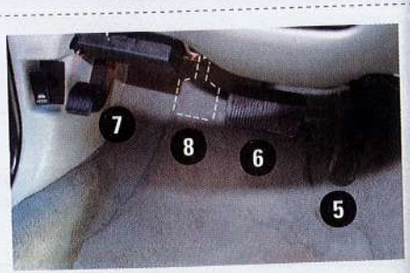


FIGURE 2
All vehicles have a foot-brake pedal and an accelerator pedal. Some vehicles also have a clutch pedal (8) and/or parking-brake pedal.

Shift Indicator Positions

The **shift indicator** shows the gear positions of an automatic transmission. This indicator may be located on the steering column, on the instrument panel, or on the console to the right of the driver. Common positions on the shift indicator are P, R, N, D, 2, and 1.

P (PARK) This gear position locks the transmission. Your vehicle should be in PARK before you start driving. You should also shift to PARK every time you stop driving since the vehicle cannot roll in this gear. Never shift to PARK when the vehicle is moving. You can remove the key from the ignition only when the lever is in PARK.

R (REVERSE) This gear is used for backing up. Always come to a complete stop before shifting into REVERSE. When you shift to REVERSE, the backup lights come on. These white lights at the rear of the vehicle illuminate your path at night and tell others that you are backing up.

N (NEUTRAL) This position allows the wheels to roll without engine power. If the engine stalls while you are driving, you must shift into NEUTRAL to restart the engine while the vehicle is moving.

D (DRIVE) This position is for moving forward. To keep your vehicle from jumping forward, keep firm pressure on the brake pedal every time you shift to DRIVE. Some vehicles are equipped with overdrive. In most cars,

FIGURE 3

overdrive is shown as a D with a circle or square around it. Driving in this gear saves fuel and can be used for all normal forward driving.

LOWER GEARS The numbers 2 and 1 located to the right of D represent lower gear ratios (some indicators have L2, L1, or D2, D1). These positions allow the engine to send more power to the wheels at lower speeds. You should use the lower gears when you are towing heavy objects or going up and down steep hills.

Devices for Safety, Communication, and Comfort

Locate and understand the operation of the following devices on any vehicle you drive before you put the car in motion.

Safety Belts (9) Always wear your safety belt when the vehicle is in motion; it is your best protection against injury in a collision. Fasten the belt to a snug fit. Most states require drivers and front-seat passengers to wear safety belts. Some states require all passengers to use safety belts.

Head Restraints (10) Most vehicles have head restraints, padded devices on the backs of the seats. Head restraints help reduce whiplash injuries in a collision, especially if the vehicle is struck from the rear.

Inside and Outside Rearview Mirrors (11,12) The inside mirror (11) shows the view through the rear window of the vehicle. The left and right outside mirrors (12) show views to the side and rear of your vehicle.

FIGURE 4
Safety devices help protect you and your passengers.

Even when these mirrors are adjusted properly, there are areas around the vehicle that the driver cannot see. These areas, called the **mirror's blind spots**, are shown in FIGURE 12 on page 54.

Horn (13) The horn is usually located on the steering wheel. In some areas, two quick taps on the horn convey a friendly message, but a prolonged blast of the horn sends out a warning signal to other users of the roadway.

Hazard-Flasher Control (14) This switch may be located on the steering column or on the instrument panel. When the hazard flasher is on, both front and rear turn-signal lights flash at the same time.

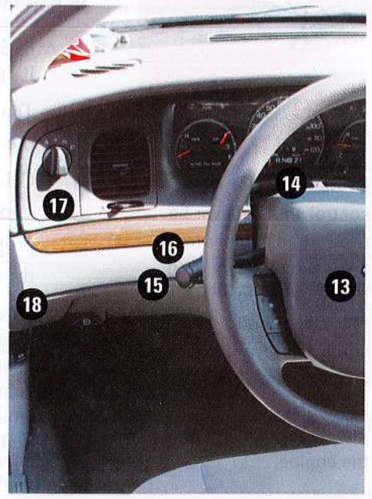
Turn-Signal Lever (15) This lever is located on the left side of the steering column. Move the lever up to signal a right turn and down to signal a left turn. The turn signal stops flashing when the steering wheel is straightened. You may need to manually cancel the signal light by moving the lever back to the neutral position.

Windshield Wipers and Washers (16) One switch usually operates both the wipers and the washers to clean the windshield. This control is often mounted on the turn-signal lever. Use a windshield anti-freeze solution in the windshield washer container under the hood in winter if you live in a cold climate.

Light Switch (17) The light switch is usually a knob or switch located on the left of the instrument panel or on the turn-signal lever. In some vehicles, it may be a separate lever attached to the steering column. This device controls headlights, taillights, and side-marker lights, as well as the instrument panel, license plate, and dome lights. You can change the headlights from low to high beam by using the dimmer switch, usually located on the turn-signal lever.

Hood Release Lever (18) This lever is usually located on the left side under the instrument panel. Pull the lever to release the hood. You will also need to operate a second release under the front of the hood before the hood can be raised.

FIGURE 5
The controls on your car may look different, but all vehicles have similar controls.



Heater, Air Conditioner, and Defroster Heating and air-conditioning systems warm or cool the inside of the vehicle.

The defroster keeps the windshield and windows free of moisture. Most vehicles have a separate switch for a rear-window defroster.

Sun Visor Sun visors are located above the windshield on the driver and passenger sides. Pull the visor down or to the side to help cut glare from bright sun. Always make certain the edge of the visor is not pointing towards you, which could cause injuries during a crash.

Seat Adjustment Lever This lever is usually located at the lower front or left side of the driver's seat. In vehicles with electric seats, the controls are usually on the lower left side of the driver's seat or mounted on the door.

Instrument Panel

The instrument panel contains gauges, warning lights, and sometimes a message center. It is the panel directly in front of the driver's seat. No matter where these gauges and lights are located, their purposes are the same. You can make sure the warning lights are working if they light when the ignition switch is turned on before starting the engine.

Important Vehicle Gauges

These gauges measure the operational condition of the vehicle. It is extremely important that you detect any abnormal reading as soon as possible.

- **Fuel Gauge (1)** The fuel gauge shows how much gasoline is in the tank. It's a good idea to keep the tank at least half full during cold weather.
- **Temperature Light or Gauge (2)** This light or gauge warns you when the coolant in the engine is too hot.
- **Oil Pressure Warning Light or Gauge (3)** This warning light or gauge signals you when the oil is not circulating through the engine at the proper pressure. However, it does not tell you the amount of oil in the engine.
- **Alternator Warning Light or Voltage Meter (4)** If this light comes on, or the gauge shows "discharge" while the engine is running, the alternator is not generating enough electricity to run the vehicle. The alternator warning light indicates that the electricity is being used from the battery. The more electricity used, the sooner the battery will go dead.

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- **Brake System Warning Light (5)** This warning light serves two purposes. First, the light reminds you to release the parking brake before moving the vehicle. Second, if the light comes on while you are pressing the foot brake or while you are driving, part or all of the braking system is not working properly. If this occurs, brake gradually to a stop, have the vehicle towed, and have the problem corrected.
- **Speedometer (6)** This instrument tells you the speed at which you are traveling in both miles per hour and kilometers per hour. Some vehicles have a digital speedometer.
- **Tachometer (7)** Some vehicles have a **tachometer** that indicates the engine revolutions per minute (RPM). Engine damage may occur if the RPMs rise too high while the vehicle is being driven. This is indicated by a red zone on the gauge.
- **Odometer (8)** The **odometer** indicates the total number of miles the vehicle has been driven. Some vehicles have an additional trip odometer that can be set back to zero to measure the number of miles driven during a certain period of time.
- **Antilock Braking System Light (9)** This light tells you if the **antilock braking system (ABS)** is functioning properly. ABS keeps the wheels from locking if the driver brakes hard. If the ABS light comes on while driving, it indicates a problem with the system.
- **Safety Belt Light (10)** This light reminds you to fasten your safety belt before moving your vehicle. This light comes on when you turn

FIGURE 6
The location of the gauges and warning lights varies from one vehicle to another.

the key. In some vehicles, the light stays on for a few seconds after the engine is started and there may also be a beeping sound.

- **Air Bag Warning Light (11)** When the ignition is turned on, the air-bag light comes on for a few seconds and then goes off. This tells you that the air bags are in proper working condition. If the air bags are not in proper operating condition, the warning light will stay on.
- **Turn-Signal Indicators (12)** These indicators tell you the direction you have signaled to turn.
- **High-Beam Indicator (13)** This light glows when the high-beam headlights are on. This indicator usually appears as a small blue light in some area of the instrument panel.
- **Check Engine Light (14)** The check engine light can either blink or remain constant, depending on the problem. A blinking light indicates a problem that needs immediate attention. However, whenever the check engine light comes on, you should have the vehicle checked by a service technician.
- **Message Center** Many vehicles have a message center that provides drivers with important information. Typical reminders include check engine oil, low-washer fluid, and door ajar. Refer to your owner's manual for the meanings of the messages whenever they appear in the message center.

review it 3.1

1. Identify three operational controls and explain how to use them.
2. Why is it important to check your indicator lights every time you start the car?
3. Explain how safety devices inside your car help keep you safe.

Critical Thinking

4. **Evaluate** Do you think it would be a good habit to place the shift selector into PARK when passengers exit the vehicle with the engine running? Explain your thinking.

IN YOUR COMMUNITY **Investigate** Use the Internet to research new innovations in vehicle controls, devices, and instruments. Make a summary of your findings and their sources, and share it with the class.

lesson 3.2
GETTING READY TO DRIVE

Before you take your place behind the wheel to drive, you should follow certain checks and procedures. People who get into a vehicle and drive away with little thought or concern for themselves or others are demonstrating high-risk driving behaviors.

OBJECTIVES

- Describe how to reduce risk while walking to your vehicle.
- Explain outside checks you can make before getting into the vehicle.

VOCABULARY

- key fob

Before Opening the Door

1. Have your keys in your hand. Hold your keys while approaching the vehicle. If you have a **key fob**, a hand-held remote control, you can lock or unlock the vehicle's doors from a distance.
2. Look under the vehicle. It is easier to see under your vehicle from a distance. Inspect beneath your vehicle as you approach it and before getting in. You may be able to detect a potential problem by looking for water or oil marks under the vehicle
3. Look at and around the vehicle. Checking all around your vehicle is especially important to avoid injuring someone or damaging your vehicle. Be alert for small children playing near your vehicle. Many deaths each year are attributed to driveway backups.
4. Glance at the tires. Look at the tires to check for cuts, tread wear, and sidewall bulges.
5. Check the windshield, windows, headlights, and taillights. Make sure the windows, windshield, headlights, and taillights are clear. If windows are covered with snow or ice, clear them completely.
6. Look inside the vehicle. Looking into the vehicle before opening the door will allow you to detect any possible problems. If your vehicle is parked on the street, walk from the front of the vehicle toward the back. This way you can see oncoming traffic and reduce the risk of being hit.

Get Into the Vehicle

Watch the traffic. Do not open the door if an oncoming vehicle is near. Get in quickly and close the door. Then take the following steps:

FIGURE 7
As you approach the car, hold the key fob with your finger ready to activate the panic button if needed.

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1. Lock all doors. Put the key in the ignition so you have two hands free to make proper adjustments. Lock the doors to be secure from carjackers and to have better protection during a crash.
2. Adjust your head restraint. Adjust the middle of the head restraint to ear level.
3. Adjust your seat. Adjust the seat for comfort and best control of foot pedals and steering wheel. Sit with your back firmly against the seat. The seat should be high enough so that your chin is no lower than the top of the steering wheel. Your body should be at least 10 inches away from the hub of the wheel to avoid injury from the airbag during a crash.

   Place your hands at the 9:00 and 3:00 positions on the steering wheel, or slightly lower. Your hands should be in a balanced, comfortable position with your elbows slightly bent. Reach for the accelerator and brake pedal with your right foot to judge a comfortable distance. Your knees should be slightly bent.
4. Check and adjust all mirrors. The inside mirror should be adjusted to a level position to show the maximum outside view through the rear window. Adjust the left and right outside rearview mirrors so they show the slightest amount of the side of the vehicle.
5. Make sure passengers buckle up. Before starting the vehicle, make sure you and all passengers put the safety belts on.

iew it 3.2

should you enter the vehicle when it is
ed on a street?

t checks should you make before opening
door to the car?

can you tell when you are positioned
erly behind the steering wheel?

Thinking

lyze While approaching the vehicle, why is
good habit to hold the key in your hand?

IN YOUR COMMUNITY **Stolen Vehicles** Use the Internet to find data about vehicles that were stolen in your state because 1) the doors were left unlocked, 2) the keys were left in the car, and 3) both the keys were left in the car and the doors unlocked. Then find the same data for the United States. Make a bar graph to compare the data and share your findings with the class.

lesson 3.3

STARTING, STOPPING, STEERING, AND TARGETING

It doesn't take much skill to start, stop, and steer the vehicle. However, it takes considerable skill and practice to develop habits that will allow you to move the vehicle smoothly as you accelerate, steer, and brake.

OBJECTIVES

- Explain why you should make smooth acceleration and braking actions.
- Explain how the use of targets will help develop good visual searching and steering habits.

VOCABULARY

- target
- braking point
- wheel lock-up

Starting the Engine

Use this procedure to start the engine of a vehicle with an automatic transmission.

1. Set the parking brake. The parking brake should already be on from the last time it was parked. The parking brake is the primary means of preventing the vehicle from moving until you are ready to put it in motion.
2. The shift lever should be in PARK. The engine can only be started from the PARK or NEUTRAL positions. If you are starting the vehicle after the engine has stalled, shift into NEUTRAL to restart the engine.
3. Place your right foot on the brake pedal. This will keep your foot off the accelerator pedal and in position when the parking brake is released.
4. Insert the key and turn the ignition switch to ON. Continue turning the key to start the engine. Release the key as soon as the engine starts to avoid damage to the starter.
5. Check the gauges, warning lights, and fuel supply.
6. Turn on the headlights if they don't come on automatically after starting the car. Get in the habit of driving with your headlights on during the day to help other drivers see your vehicle.

FIGURE 8
IGNITION AND STARTER SWITCH
With the shift selector in PARK or NEUTRAL, insert and turn the key to the start position.

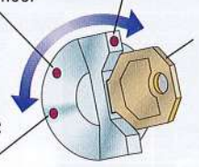
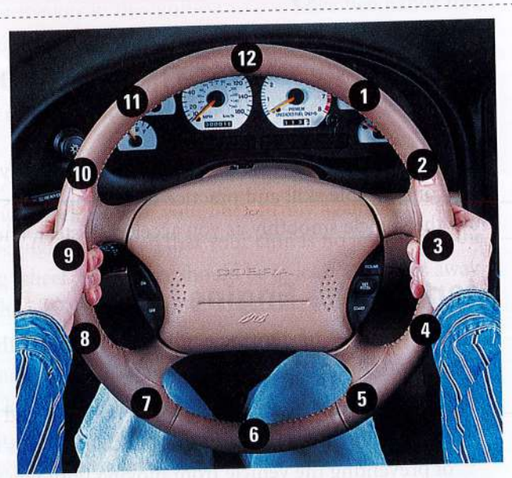


FIGURE 9

Critical Thinking
Explain the advantages of holding the steering wheel at a 9:00-3:00 or 8:00-4:00 position.



Hand Positions for Controlled Steering

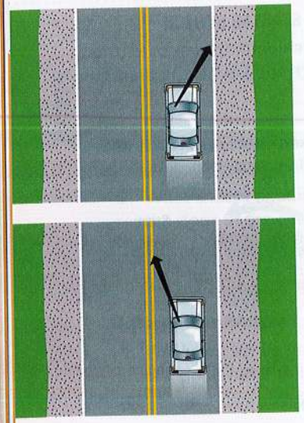
Steering is not just a matter of pointing the vehicle in the direction you want it to go. Controlled steering involves effective use of vision and a comfortable and balanced hand position on the steering wheel.

Refer to **FIGURE 9** and imagine that the steering wheel is the face of a clock. Place your hands at either the 9:00 and 3:00 positions or the 8:00 and 4:00 positions. A 9-3 or an 8-4 position will give you a balanced grip and help you avoid injury if the airbag in your vehicle's steering wheel deploys during a collision.

Always keep your knuckles and thumbs on the outside of the rim of the steering wheel to reduce injury in a collision.

FIGURE 10

Don't use the road lines as a guide for where to look when you practice steering.



Use of Targets and the Steering Wheel

Using a target helps you steer the vehicle with pinpoint accuracy. A **target** is a fixed object far out in the distance that appears to be in the center of the path you intend to drive. A target serves as an aiming point for where you want your vehicle to go. Using targets will give you the ability to steer your vehicle accurately. To steer the vehicle, turn the steering wheel so that the center of it is aligned with the target.

Two popular methods for turning the steering wheel are hand-over-hand and hand-to-hand, as shown in **FIGURE 11**.

Hand-over-Hand Steering This method is best to use when you need to make tight right turns, or to make quick steering actions to correct a skid. This will give you maximum movement of the steering wheel in a short period of time.

1. Begin with the hands in a balanced 9-3 position.
2. To make a right turn, begin with the right hand at the 3 position, and pull down to the 5 position.
3. Move the left hand up to the 12 position, grip the wheel, and pull down to the 5 position.
4. Cross the right hand over the left hand to the 12 position and continue turning to the 5 position.
5. To straighten the steering wheel, turn the steering wheel back using the left side of the steering wheel.
6. To make a left turn, use the left side of the steering wheel starting at the 9 position.

Hand-to-Hand Steering This method is best when there is a need for small steering adjustments, such as making a left turn or going into a slight curve. This method will keep your body balanced behind the steering wheel and prevent your hands from crossing the area of the steering wheel in which the air bag is stored.

1. Begin with your hands in the 8-4 position.
2. To make a left turn, grip the wheel with your right hand at the 4 position.
3. Slide your left hand to the 10 position. Grip the wheel and pull down to the 7 position.
4. Push the right hand up to the 2 position. Slide the left hand up to the 10 position.
5. With your left hand, pull the steering wheel down to the 7 position while sliding the right hand down to the 4 position.
6. Continue to pull and push as more steering is needed.

FIGURE 11

Hand-over-Hand Steering

Putting the Vehicle in Motion

A vacant parking lot is a good place to practice good driving behaviors. You have the opportunity to repeat your actions often during a short period of time.

1. Put your right foot on the brake. Keep the ball of your foot on the brake pedal, and the heel of your foot on the floorboard.
2. Shift into DRIVE by placing your open palm under the shift lever and moving it towards your body and into the DRIVE position.
3. Keep your foot on the brake pedal. Locate the parking brake and release the lever without looking at it to keep you alert to the driving scene around you. Release the parking brake.
4. Check your path of travel. Before taking your foot off the brake, check the path of travel you want the vehicle to take. Look to the left, front and right of your vehicle. Check the rearview and outside mirrors.
5. Make blind-spot area checks. Even with side view mirrors, there are blind spots where you may not be able to see another vehicle alongside you. You should look over your shoulder towards the side you will be moving into, or move your head forward while checking the outside mirror.

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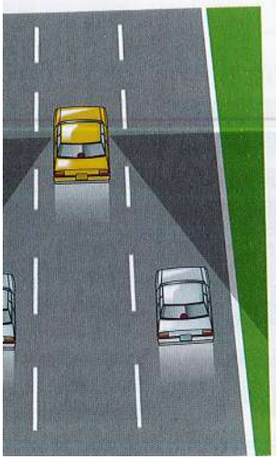


Acceleration Control

When you are ready to move, take your foot off the brake and allow the vehicle's idling engine to begin moving the vehicle before pressing the accelerator pedal.

Press the accelerator smoothly. Once the vehicle is moving at the engine's idle speed, the force added by accelerating will be smooth. This is because idle speed is able to move the vehicle from a rest position more lightly than most drivers are able to accelerate.

Accelerate smoothly, and then work to maintain a steady speed. Decelerate gradually. Practice releasing partial pressure from the accelerator.

Braking Control

There are several techniques you can practice to acquire the best braking control.

- **Braking Point** As you practice using the brakes, try to feel the vehicle's **braking point**, which is the point at which the brakes begin to work and slow the vehicle.
- **Constant Braking Pressure** Apply constant pressure to the pedal when braking. A constant "squeezing" pressure on the brake pedal will activate the brakes without causing your wheels to lock up. **Wheel lock-up** occurs in a vehicle without ABS when the brakes are applied with such force that the wheels stop turning and the tires begin to slide on the pavement.
- **Normal Smooth Stop** To make a smooth stop, release some braking pressure one or two seconds before the vehicle comes to a complete rest. For a smooth stop, keep the ball of your foot on the pedal while lifting your toes. This will release enough braking pressure—without affecting the braking action—so that the vehicle will be level at the moment of total stop.
- **Hard, Smooth Stop** For hard stops, apply maximum braking pressure at the start of braking without locking the wheels, and hold that position. You can still make a smooth braking action by pulling back your toes during the last one or two seconds before the vehicle comes to a full stop.
- **ABS Braking** When the ABS system activates, your brake pedal may begin pulsating, which is normal. Do not release your foot pressure.

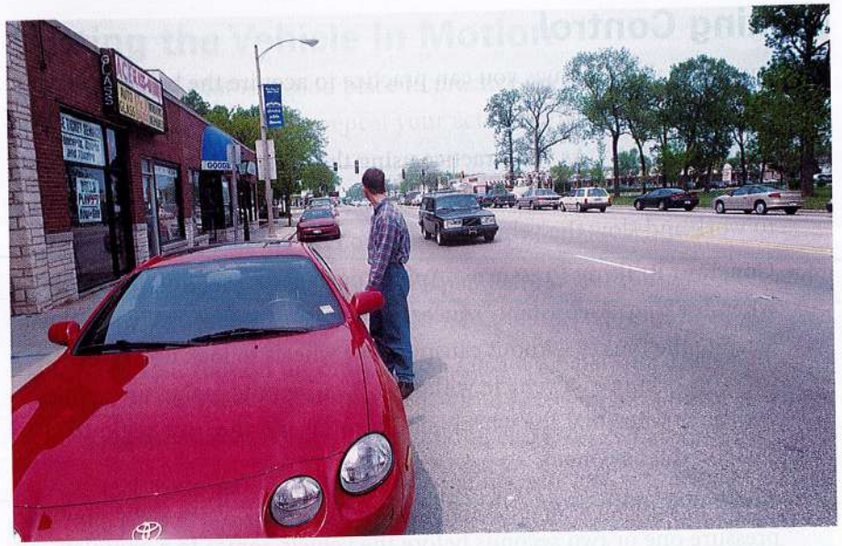
safe driving tip

Develop the habit of turning your head in the direction you want to go before turning the steering wheel. This will help you stay mentally ahead of the vehicle. Your eyes should always precede the vehicle on the path you want to travel.

Exiting the Vehicle

Check the location. Make sure your vehicle is parked in the best possible location. Is it legally parked?

1. Keep your foot on the brake until the shift selector is in PARK and the parking brake is set.
2. Set the parking brake to secure the vehicle.
3. Shift to PARK.
4. Take your foot off the brake.



facing traffic
the vehicle.
Why is it
face traffic
out of the car?

5. Turn off the headlights and accessories to prevent unnecessary drain on the battery.
6. Take off your safety belt.
7. Close the windows before turning off the ignition.
8. Turn the ignition off and remove the key. Keep the key in your hand.
9. Check for traffic to be certain that it is safe for you to open the door.
10. Open the door as little as necessary and close it as soon as possible.
11. Lock the doors after you are certain you have your keys. Walk to the rear of the vehicle, so that you can face traffic to detect any problems.

view it 3.3

t are targets, and how are they used while ring the vehicle?

do you use the brake to make a smooth ? Why is this a good habit?

Thinking

lyze Why should you turn your head before ing the steering wheel?

IN THE PASSENGER SEAT **Locating Targets** Use your time as a passenger to practice your targeting skills. Look as far ahead as possible until you see a fixed target such as a window on a house, a utility pole, a traffic sign, or a tree. Then, see if the path the vehicle will travel is clear.

lesson 3.4

DRIVING WITH A MANUAL TRANSMISSION

It will be easier to learn good manual transmission skills after you have learned how to use the steering wheel, brake pedal, and accelerator, and have developed skills to manage space.

OBJECTIVES

- Describe what a transmission does.
- Compare the advantages and disadvantages of manual transmissions.

VOCABULARY

- transmission
- clutch
- semi-automatic transmission

Manual Transmission

The purpose of a **transmission** is to convert engine speed into power to turn the wheels of a vehicle. When a vehicle is stationary, it takes more power to set it in motion than when it is already moving. Putting a vehicle in motion requires a gear selection that will give the most power at the expense of speed. As speed is increased, there is less need for power. Shifting gears in the transmission changes how the speed of the engine is transferred to the vehicle's wheels. While the lower gears of the transmission provide the greatest power, the higher gears allow for the highest speeds.

The purpose of the **clutch** is to connect the rotating engine shaft to the gears in the transmission. This connection is made with clutch plates held together by friction. When the clutch pedal is pressed down, the engine gets separated from the transmission, which allows the driver to change gear selection in the transmission. After the gear selection is made, the pressure on the clutch pedal is removed and the engine and transmission apply power to the vehicle's wheels.

Advantages and Disadvantages of Manual Transmission

One of the advantages of a manual transmission is better fuel economy. Cars with manual transmissions are less expensive and require less maintenance than cars with automatic transmissions. Plus the driver has more control over how power is applied.

Driving a car with a manual transmission means that the driver has one hand off of the steering wheel on a continual basis, which could result in less control during a critical steering situation.

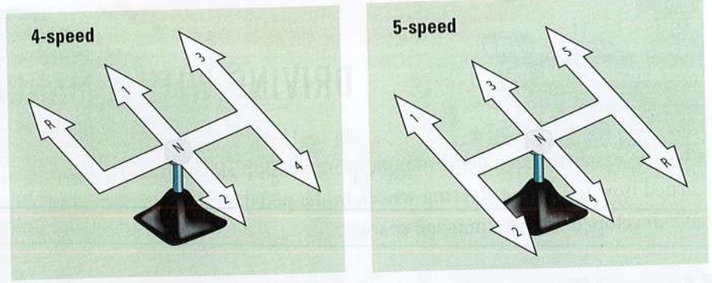


FIGURE 14
Typical patterns of gear positions for manual transmissions. Positions may vary, especially for REVERSE (R).

Inexperienced drivers may place too much of their attention on shifting the gears, thus creating distractions from traffic scenes. A driver may inadvertently shift to the wrong gear, causing damage to the engine and transmission. There is a greater workload on the driver during heavy stop-and-go traffic.

To learn how to drive a car with a manual transmission, you can find detailed lessons on the Internet. You can also ask a licensed driver to help you.

Semi-Automatic Transmission

Many auto manufacturers are producing **semi-automatic transmissions**, also known as a "clutchless manual transmission." The clutch is replaced with electronics that allow the driver to shift gears manually by merely moving the shift lever.

review it 3.4

1. Explain the purpose of a transmission.
2. Explain the function of a clutch.
3. List three advantages and three disadvantages to operating a vehicle with a manual transmission.

Critical Thinking

4. **Analyze** Why do you think some people may prefer driving a car with a manual transmission rather than one with an automatic transmission?

IN YOUR COMMUNITY **Research** Search the Internet for auto manufacturers that make vehicles with semi-automatic transmissions as an option. Read about how they work. Write a brief summary of your findings and share it with the class.

CHAPTER 3 REVIEW

Lesson Summaries

3.1 CONTROLS, DEVICES, AND INSTRUMENTS

- The accelerator, brake pedal, steering wheel, and shift selector allow you to start and stop the motion of the vehicle and to change its direction.
- Safety belts not only protect you and passengers during a crash, they also allow you to remain behind the steering wheel to maintain control of the vehicle.
- Signal lights, brake lights, headlights, and the horn are communication devices.
- Always check the four major engine operational gauges or warning lights.

3.2 GETTING READY TO DRIVE

- Having your key in hand and being alert to the area surrounding your car will increase your safety as you approach your parked vehicle.
- Be alert for small children playing near your vehicle and look for objects that you may back into.
- Proper seating position can, in part, determine how well you will be able to control the vehicle.

3.3 STARTING, STOPPING, STEERING, AND TARGETING

- Learning to use targets for steering the vehicle will help you develop correct use of vision. The vehicle will go where the eyes are looking.

3.4 DRIVING WITH A MANUAL TRANSMISSION

- There are advantages and disadvantages to having a vehicle with a manual transmission.

Chapter Vocabulary

- antilock braking system (ABS)
- braking point
- clutch
- cruise control
- key fob
- mirror's blind spot
- odometer
- semi-automatic transmission
- shift indicator
- shift lever
- tachometer
- target
- transmission
- wheel lock-up

Write the word or phrase from the list above that completes each sentence correctly.

1. When _____ occurs, the tires stop rotating.
2. A(n) _____ serves as an "aiming point" for where you want the vehicle to go.
3. The _____ is used to select a gear.
4. A(n) _____ lets you open or close your vehicle's doors from a distance.
5. In an automatic transmission, the _____ shows the positions of the gears.
6. When drivers brake and feel the brakes slowing down the vehicle, they are feeling the _____ of the vehicle.
7. The _____ indicates engine revolutions per minute.
8. The _____ keeps the wheels from locking if the driver brakes hard.

STUDY TIP

Controls and Panel Lights Look at all the controls and the instrument panel of a car that is parked. Try to name each control and its function. Then turn the ignition key to the ON position and name each warning light and its function.