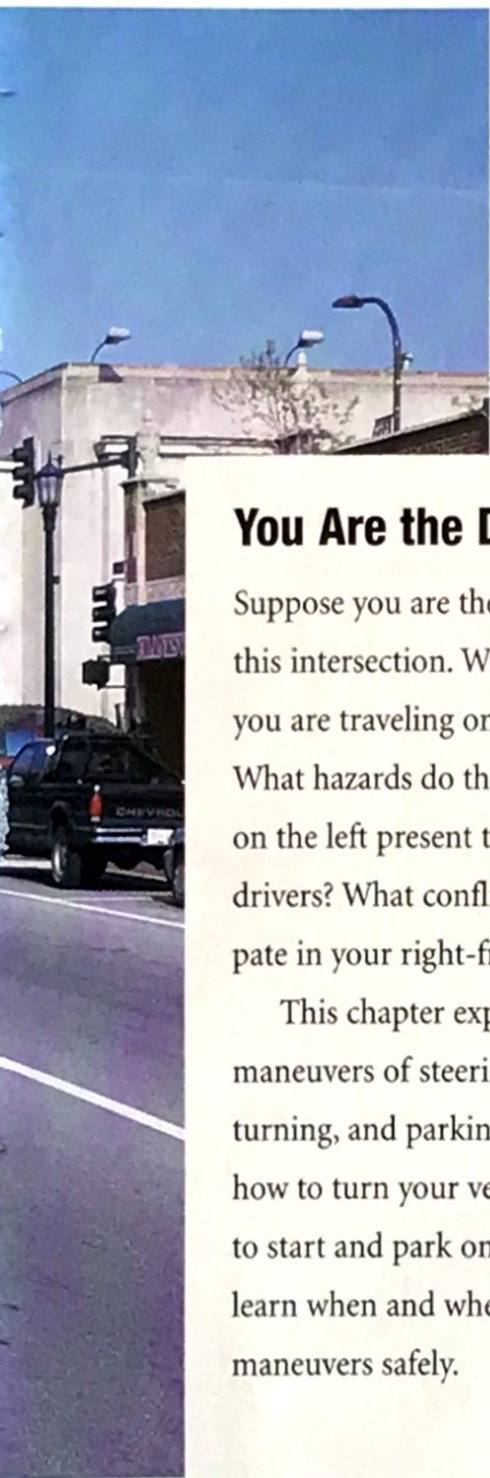




Chapter 6

Performing Basic Vehicle Maneuvers



You Are the Driver!

Suppose you are the driver approaching this intersection. What clues tell you that you are traveling on a one-way street? What hazards do the angle-parked vehicles on the left present to you and to their drivers? What conflicts might you anticipate in your right-front zone?

This chapter explains the basic maneuvers of steering, changing lanes, turning, and parking. You will also learn how to turn your vehicle around and how to start and park on hills. Finally, you will learn when and where to perform these maneuvers safely.

6.1

Steering, Signaling, and Changing Lanes

6.2

Making Turns and Turning the Vehicle Around

6.3

Parking



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6.1

Steering, Signaling, and Changing Lanes

Objectives

1. Explain how to steer straight forward and backward.
2. Describe the correct use of hand signals and explain when they might be used.
3. List the proper steps for changing lanes.

Steering control is critical to safe, successful driving. Developing steering control involves acquiring visual habits, such as looking far ahead into your intended path of travel, using space correctly, controlling speed, and continually adjusting the steering wheel.

Steering Straight Forward

Use a comfortable, balanced hand position, as explained in Chapter 3, as you begin steering control practice. Aim far ahead into your intended path with your visual search. Avoid looking down at your hands or feet.

The steering adjustments you need to make to drive in a straight line are small but critical. Some new drivers tend to turn the steering wheel too much, or **oversteer**. When you oversteer, your vehicle will weave from side to side.

Other new drivers might tend to **understeer**. These drivers do not turn the steering wheel enough to keep the vehicle in the planned path. If you

understeer, you continue too far in one direction before you can correct and steer toward your target. Correct understeering by turning the steering wheel only slightly and more often.

Practice will help you think of your vehicle as an extension of yourself. You soon will be able to accurately judge the space your vehicle uses while it is moving and the space you need to make various maneuvers.

Steering Straight Backward

Backing your vehicle may feel strange at first. Steering when moving backward involves knowing where to look and how to control direction and speed. Before backing, make sure your rear zones are clear, and follow these steps:

1. Hold the brake pedal down and shift to REVERSE.
2. Turn your body to the right, and put your right arm over the back of the passenger seat. Look back through the rear window.
3. Put your left hand at the top



The driver is in the correct position for backing straight.

of the steering wheel at the 12 o'clock position.

4. Release pressure on the brake just enough to allow the vehicle to creep backward slowly.
5. While looking back through the rear window, move the top of the steering wheel toward the direction you want the back of the vehicle to go.
6. Keep your foot over the brake pedal while your vehicle is moving backward. Glance quickly to the front and sides to check traffic. Continue to look back through the rear window as you brake to a stop.

Backing a Stickshift Vehicle

You can back slowly in a stickshift vehicle by carefully controlling your use of the clutch pedal at the friction point. Follow these steps for backing in a stickshift vehicle:

1. Push the brake and clutch pedals down.
2. Shift to REVERSE.
3. Release the brake, and let the clutch come out slowly to the friction point.

Holding the clutch at the friction point allows you to back the vehicle at a slow, controlled speed. Releasing the clutch suddenly may cause the vehicle to jerk back quickly.

Most stickshift vehicles can move slowly in REVERSE with the clutch at the friction point and with no acceleration. Keep your right foot over the brake pedal, ready for a stop. When stopping, push the clutch pedal down and brake to a smooth stop. Continue to look back until the vehicle is completely stopped.

Signaling

Develop the habit of signaling every time you plan to turn, change lanes, slow, or stop. Signal well in advance before you begin any maneuver. Doing so gives other drivers time to react.

Even though all vehicles have turn-signal devices, there will be times when you use hand signals for further protection. Hand signals are often easier to see in bright sunlight. If your turn-signal device does not work, use hand signals. Many times a combination of turn lights and hand signals will be more effective.

Notice the hand and arm positions in the pictures. The first picture shows the left arm and hand pointing up for a right turn. The second shows the left arm and hand extended straight out for a left turn. The third picture shows the left arm extended downward, indicating slow or stop.

When using hand signals, use your right hand to maintain steering control. Make all hand and arm signals well in advance of entering a turn. Return your left hand to the steering wheel before you begin to execute the turn.

Changing Lanes

Drivers must be able to execute the lane-change maneuver smoothly and safely before they learn to pass other vehicles. Changing lanes is a maneuver you will use often on a roadway with two or more lanes of traffic moving in your direction. You also may need to change lanes before making right or left turns.

At times, changing lanes gives you a better position or view when



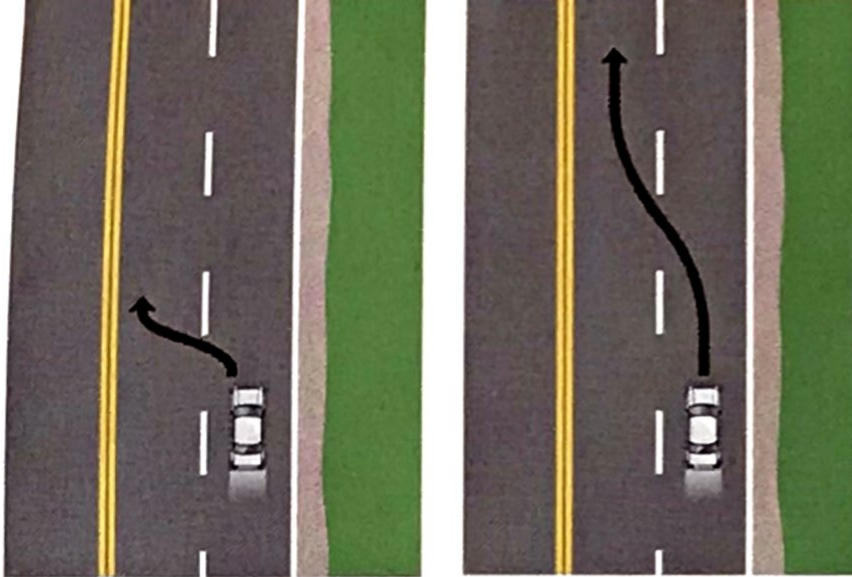
Right turn



Left turn



Slow or stop



Oversteering can cause you to take an incorrect path for changing lanes. The picture on the right shows the correct path of travel for a smooth lane change.

driving in traffic. For example, you might change lanes when following a large truck on a multilane highway. By moving to a different lane, you increase your sight distance and get a broader view of the traffic scene.

Steering control is a critical factor as you learn the lane-changing maneuver. Oversteering can cause your vehicle to turn too sharply as you start to enter the adjoining lane. The first picture shows this oversteering error. At higher speeds you could lose steering control.

Change lanes as smoothly as possible. The second picture shows the safe path of travel of a vehicle executing a smooth lane change.

Always follow the same procedure for making a lane change, regardless of your reason for making the lane change. Before changing lanes, check all zones for possible hazards. Make sure you can see far ahead in the lane of your intended path of travel and that there are no obstructions in either lane.

Follow these steps when making a lane change to the left:

1. Check traffic in the front and left-front zones. Check rear zones through the rearview mirrors.
2. Signal and make a blind-spot check over your left shoulder to see if any vehicle is about to pass you.
3. Increase your speed slightly as you steer smoothly into the next lane if it is clear.
4. Cancel your signal and adjust your speed.

Follow the same procedure when making a lane change to the right, with one exception. After checking traffic ahead and through both mirrors, check the blind-spot area over your right shoulder. Take only a glance to make the check. Be careful not to pull the steering wheel to the right as you turn to glance over your right shoulder. Keep steering straight as you check your blind spot. If the lane is clear, complete the lane change to the right the same way you would make a lane change to the left.

Review It

1. Describe the procedures for steering straight forward and backward.
2. What are the three hand and arm signals for turns and stopping? When might these signals be used?
3. List the steps to follow when changing lanes.

Making Turns and Turning the Vehicle Around

Making turns properly depends on steering control, speed control, and good visual habits. Look far ahead as you approach the turn. Identify where your vehicle will go, any hazards in your path, and how much to turn.

Hand-Over-Hand Steering

You use **hand-over-hand steering** by pulling the steering wheel down with one hand while your other hand crosses over to pull the wheel farther down. Follow these steps for a left turn:

1. Begin the turn from a balanced hand position.
2. Start pulling down to the left with your left hand. Your right hand pushes the wheel toward the left about a quarter turn.
3. Release your left hand from the wheel and cross it over your right hand to grasp the wheel near the top. Continue pulling down.

You can complete the turn by continuing to pull down with the left hand as you release the right hand.

Some steering wheels will straighten after a turn if you relax your

grip. However, be ready to unwind the wheel hand-over-hand, especially at lower speeds, with front-wheel drive vehicles, and when backing.

Push-Pull Steering

Some drivers prefer **push-pull steering** for some maneuvers. You push the steering wheel up with one hand and pull it down with the other hand. This method allows you to keep both hands on the wheel at all times.

To use this method, one hand grasps the steering wheel near the 4 or 8 o'clock position. That hand then pushes the wheel up to near the 12 o'clock position. At the same time, the other hand slides up to the 11 or 1 o'clock position and pulls down. As the pulling hand comes down, the pushing hand returns to the original position to continue the process. With this method, you never cross your arms while driving.

Making Left and Right Turns

Make left and right turns only after checking all traffic. Take

Objectives

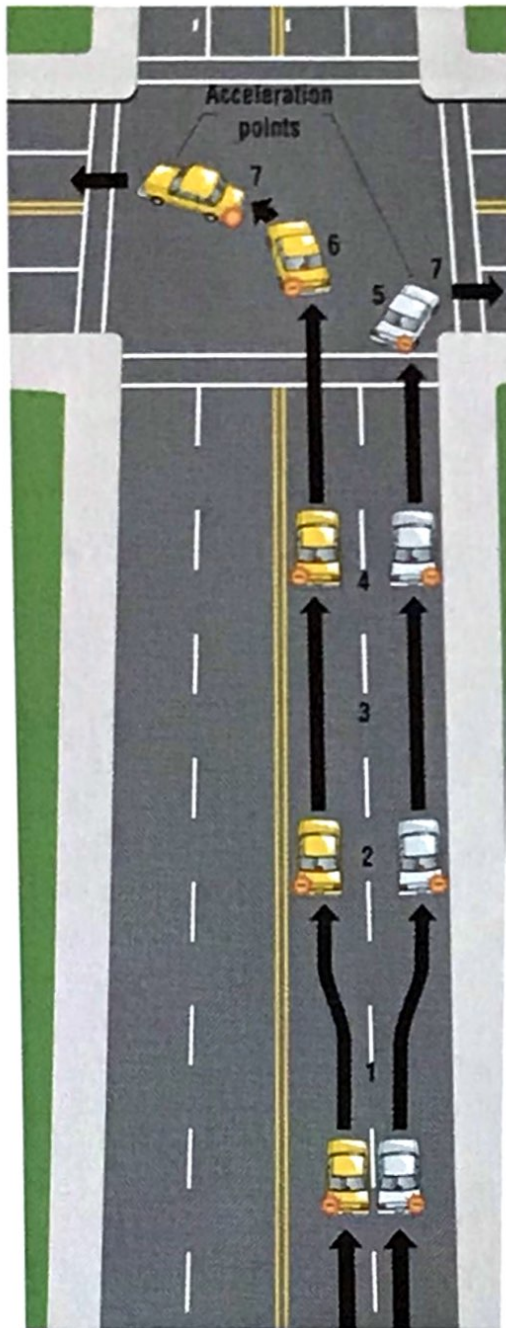
1. Describe hand-over-hand steering.
2. List the steps for making right and left turns.
3. Describe how to back left and right.
4. Describe five turnabouts and tell which is the safest to use.



Hand-over-hand steering



Push-pull steering



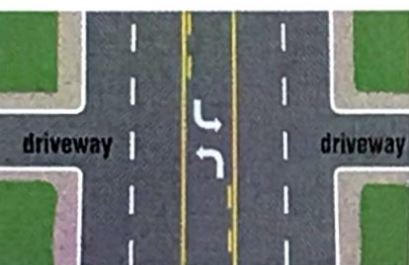
Steps for making left turns (yellow car) and right turns (white car)

- Obey all traffic signs, signals, and roadway markings. Remember that you must yield to oncoming traffic when preparing to turn left. When turning in a stickshift vehicle, you might need to downshift before entering a sharp turn. Downshift and release the clutch before the turn so you have both hands free for turning.

Procedures for Turning The numbers in the picture on the left match the following steps for turns:

1. Position your vehicle in the correct lane for the turn. For a right turn, be in lane position 3 if there are no parked vehicles. For a left turn, be in the lane nearest the center line in lane position 2. (On a one-way street, be in the far left lane.) Signal about half a block before the turn.
2. Brake early to reduce speed.
3. Use your visual search pattern to check the front zones for vehicles, pedestrians, and bicyclists.
4. Slow to about 10 mph just before the crosswalk.
5. For a right turn, check to the left again before turning. Then look in the direction of the turn. Begin turning the wheel when your vehicle's front bumper is even with the curbline.
6. For a left turn, check traffic to the left, then right, then left again. Turn the steering wheel just before the front of your vehicle reaches the center of the intersection. Continue looking left into the lane you will enter.
7. As you begin your turn, make a quick blind-spot check through

A shared left-turn lane



these precautions when executing turns:

- Look for pedestrians and oncoming vehicles. Check rear zones for vehicles about to pass you.
- Plan turns well in advance. Be in the correct lane about a block before your turn.

the right side window. Check front and rear zones. If the intersection is clear, turn into the nearest lane of traffic going in your direction.

Accelerate about halfway through the turn as you return the wheel to the straight-ahead position.

Shared Left-Turn Lane

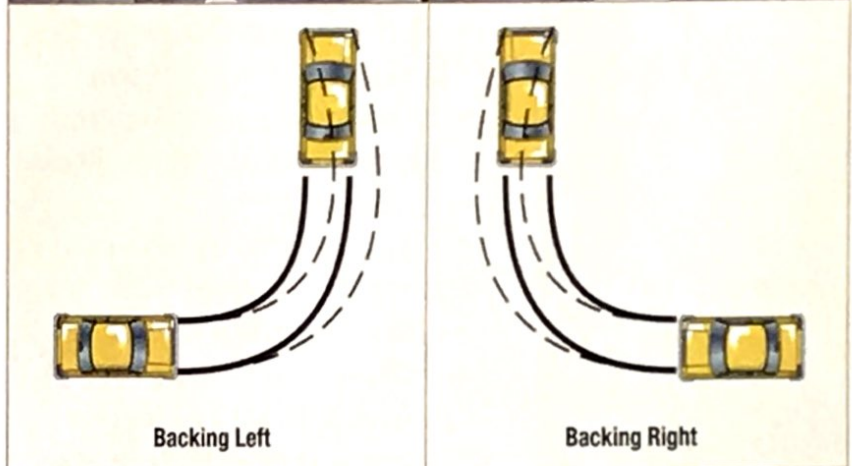
Some left turns into business areas can be made in midblock from a center lane. This is called a **shared left-turn lane**.

This type of left turn can be hazardous. Before making a turn from a shared left-turn lane, search your front zones. Follow the proper procedure to enter the center lane. Look ahead for oncoming traffic and be prepared to yield to any vehicle whose path you will cross.

Backing Left and Right

When backing to the left, your visual search will be primarily over your left shoulder through the left side windows. When backing right, you will look over your right shoulder and through the right side windows. Use hand-over-hand steering and follow these steps to make sharp turns when backing.

1. Before backing, check for traffic, pedestrians, parked vehicles, and any stationary objects in front, around, and behind you. Turn your head toward the direction you will be backing.
2. Keep both hands on the wheel, ready for hand-over-hand steering. Pull the wheel to the left to back left. Pull the wheel to the right to back right. The back of

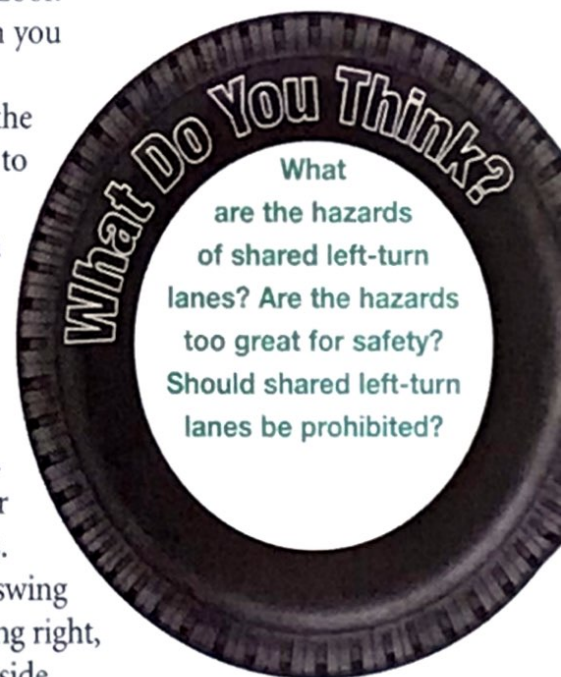


The correct driver positions for backing to the left and to the right, and the space and path of travel the car takes during backing

your vehicle will go in the direction you turn the wheel. Look back toward the direction you want the vehicle to go.

3. Back slowly as you enter the turn. Make quick glances to the front and sides to be sure no one is near. Begin to unwind the steering wheel to finish the turn in a straight position.

When backing left, allow a wide space on the right side. The front wheels will move far to the right of the rear wheels. The front of your vehicle will swing wide to the right. When backing right, allow a wide space on the left side.



Turning the Vehicle Around

A **turnabout** is a maneuver for turning your vehicle around to go in the opposite direction. Because turnabouts often require drivers to cross or back into traffic, they should be considered a high-risk maneuver.

Take these precautions when you plan to make a turnabout:

- Be sure local laws permit the turnabout.
- Select a site with at least 500 feet of visibility in each direction.
- Do not make a turnabout near hills or curves or within 200 feet of intersections.
- Never attempt a turnabout in heavy or high-speed traffic.
- Check continually in all zones for traffic and pedestrians.

You must decide which of the five turnabouts described is best for each situation. The steps for each turnabout match the numbered car locations shown in the pictures.

Midblock U-turn Make sure local and state laws permit this type of turnabout. You need a wide space to make a U-turn. A U-turn is risky because you must cross several lanes of traffic to execute it.

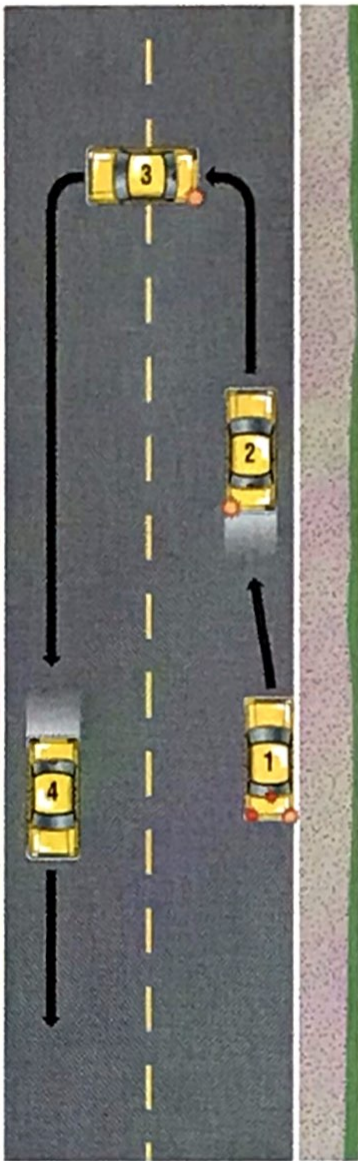
1. Check traffic ahead and to the rear, and then signal right. Pull to the far right and stop at location 1.
2. Signal left and move toward location 2.
3. Check your front and left-rear zones. Check your left blind spot. Turn sharply left while moving slowly toward location 3. Do not stop if you have enough space to complete the turn.

4. Move slowly toward location 4. Check all zones. Straighten the wheels while you accelerate gently into the proper lane.

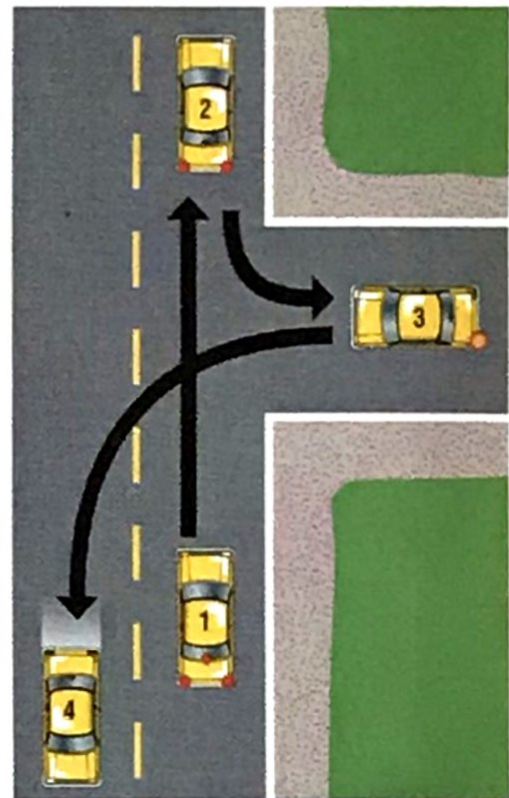
Back into Driveway on Right Side

Choose this turnabout if a clear driveway is on the right and there is no close traffic in your rear zones. This turnabout has the advantage of letting you reenter traffic going forward.

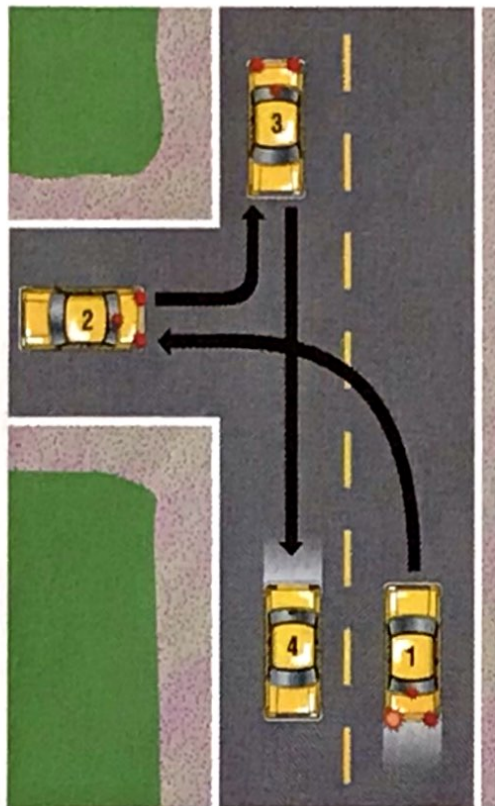
1. Check traffic to the rear. Begin to slow as you proceed beyond the driveway.
2. Stop about three feet from the curb and with your rear bumper just beyond the driveway. Check traffic, and back slowly to the right to location 3. Use hand-over-hand steering. Stop when your vehicle is completely off the street.
3. Signal a left turn. Check traffic.



Midblock U-turn



Back into driveway on right side



Pull into driveway on left side

4. When your path is clear, drive forward to location 4.

Pull into Driveway on Left Side

You might choose this turnabout if oncoming traffic is light and a driveway on the left is available. The disadvantage is that you must back into traffic before moving forward.

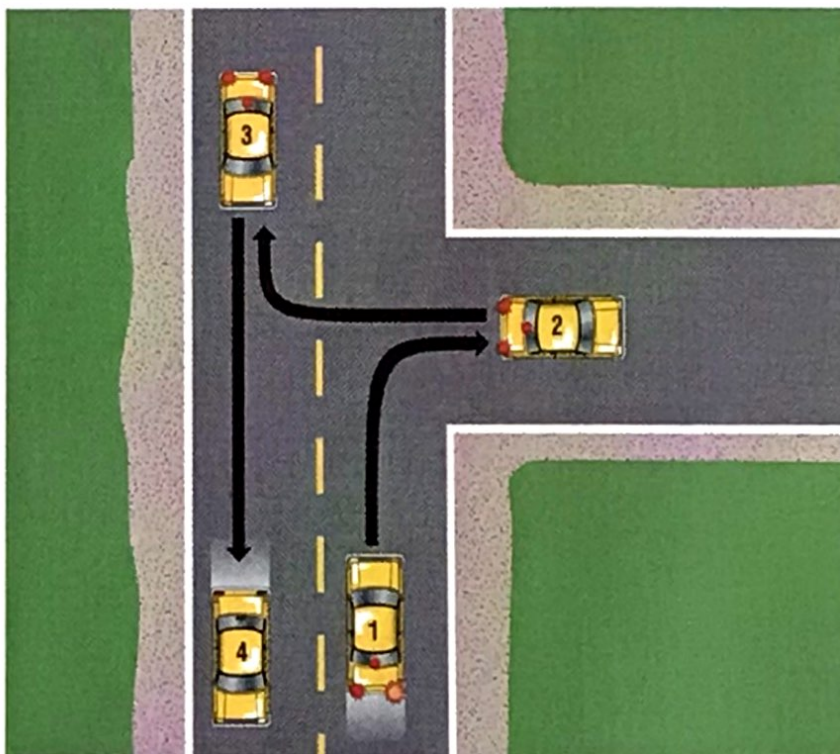
1. Check traffic in front and rear zones. Signal a left turn and use the left-turn procedure to move to location 2. Stay as close to the right side as possible. Stop with your wheels straight when your vehicle is completely off the street.
2. Check traffic again, especially from the right. Back slowly to the right to location 3. Look to the right rear and side while backing. Stop with the wheels straight.

3. Accelerate gently, scanning all zones, as you drive forward toward location 4.

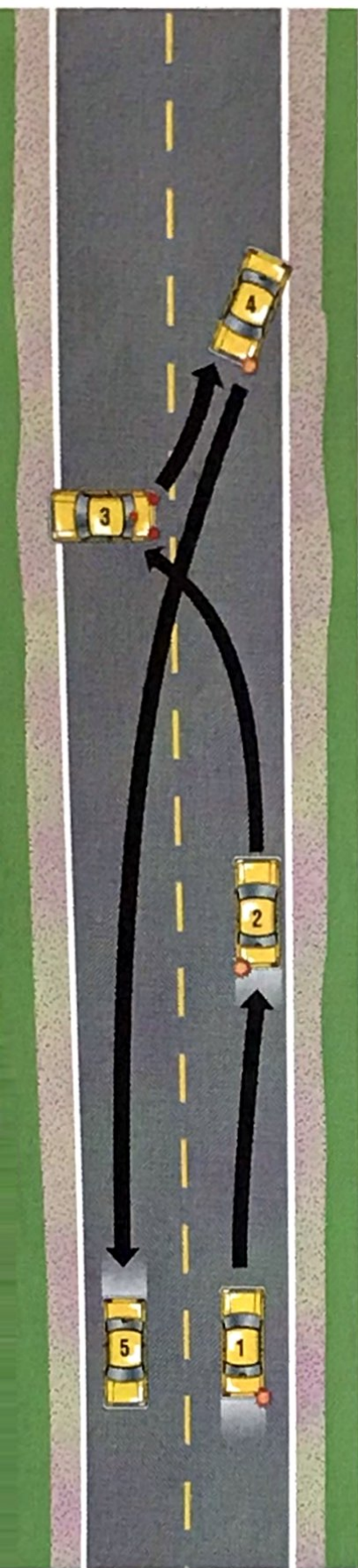
Pull into Driveway on Right Side

This type of turnabout is a high-risk maneuver. To complete it, you must back across two lanes of traffic and into oncoming traffic before moving forward. Avoid this turnabout whenever possible.

1. Check traffic in front and rear zones. Signal a right turn and use the right-turn procedure to move to location 2. Stop when your vehicle is off the street.
2. Check traffic again from both directions. Back slowly across the street, turning left toward location 3. Look to the left, rear, and side when backing. Glance to the front, then continue looking back while



Pull into driveway on right side



Three-point turnabout

stopping with the wheels straight in location 3.

3. Accelerate gently, and drive forward to location 4.

Three-Point Turnabout This turnabout is hazardous to perform. You not only cross traffic lanes, but your vehicle is stopped across a traffic lane. Executing this maneuver may put you in a high-risk situation.

1. From location 1 check front and rear zones. Signal right and stop close to the curb as shown in location 2. Check traffic ahead, to the rear, and over your left shoulder. Signal a left turn.
2. Search front and rear zones as you turn sharply left. Move to location 3 with wheels straight. Stop before hitting the curb.
3. Check all traffic again. Turn the wheels sharply right while backing slowly to location 4. Back only as far as necessary to complete the maneuver and before hitting the curb. Stop with wheels straight.
4. Check traffic again and signal left. Move slowly forward while steering left toward location 5.

Deciding Which Turnabout to Use

Consider these factors when deciding which turnabout to use:

- legality of the turnabout
 - amount of traffic
 - types of driveways available
 - need to enter traffic lanes forward or backward
 - ample space to enter traffic
 - number of traffic lanes to cross
- Backing into a driveway or alley on

the right side is usually the safest type of turnabout to use because you can enter traffic forward.

Sometimes you might need to make a turnabout in light traffic. If there are driveways on both the left and right sides, choose the left driveway to turn into. This turnabout lets you back into your own lane rather than across both lanes. Select a gap in traffic that gives you ample time to complete the maneuver.

A three-point turnabout should rarely be used. Use this turnabout only when you are on a dead-end street or on a rural roadway with no driveways.

Review It

1. What is the procedure for hand-over-hand steering?
2. What are the steps for turning left and right?
3. What procedures do you follow to back to the left and to the right?
4. What is the safest type of turnabout to use? Why is that type the safest?

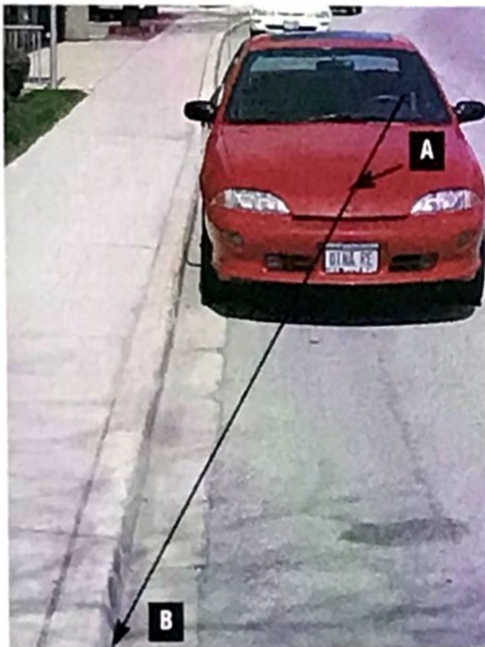
6.3

Parking

Some drivers find parking a vehicle a difficult maneuver to execute, because the size of the parking space often is limited. Parking your vehicle requires speed control, steering control, and accurate judgment.

Parking is easier and safer if you consider these factors:

- Try to find a parking space with ample room for entering and exiting easily. The size of your vehicle is the main factor in determining the space you choose.
- Avoid spaces at the end of parking lanes and near a large vehicle that might block your view. In end spaces your vehicle has a greater chance of being struck by other moving vehicles.



To use a standard reference point, the driver's line of sight sees the center of the hood at Arrow A and the curb at Arrow B. This tells the driver that the right tires are close to the curb.

- Avoid spaces with a poorly parked vehicle on either side.
- Use reference points when executing parking maneuvers.

Reference Points

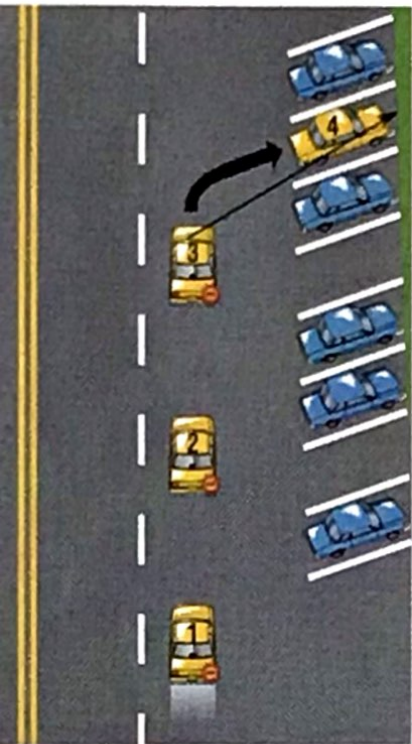
Many drivers use reference points to serve as guides in determining the position of the vehicle in the roadway. A **reference point** is some part of the outside or inside of the vehicle, as viewed from the driver's seat, that relates to some part of the roadway. Reference points can be developed for the front, side, or rear to help you know where your vehicle is located in the roadway. A **standard reference point** is the point on the vehicle that is typical for most drivers. This could be a sideview mirror, a hood ornament, or the center of the hood. The photograph shows how the center of the hood is used for a standard reference point.

Once you learn standard reference points, you can develop your own **personal reference points**. A personal reference point is an adaptation of a standard reference point for one's own vehicle. You will learn to use different parts of your own vehicle such as wiper blades, door handles, or rearview mirrors as guides.

As you begin to practice parking maneuvers, you will learn which parts of your vehicle to use as personal reference points. You will be able to line up these points with parts of other vehicles to help execute the maneuvers.

Objectives

1. Discuss reference points and how to use them as guides when parking your vehicle.
2. Describe the procedures for angle, perpendicular, and parallel parking.
3. Describe how to park uphill and downhill with and without a curb.
4. Explain how to start from an uphill parking space without rolling backwards.



Angle parking

The following parking procedures refer to entering a parking space to your right. When parking to your left, adjust your actions and visual checks for the left side. The steps for each procedure match the numbered car locations in the pictures.

Angle Parking

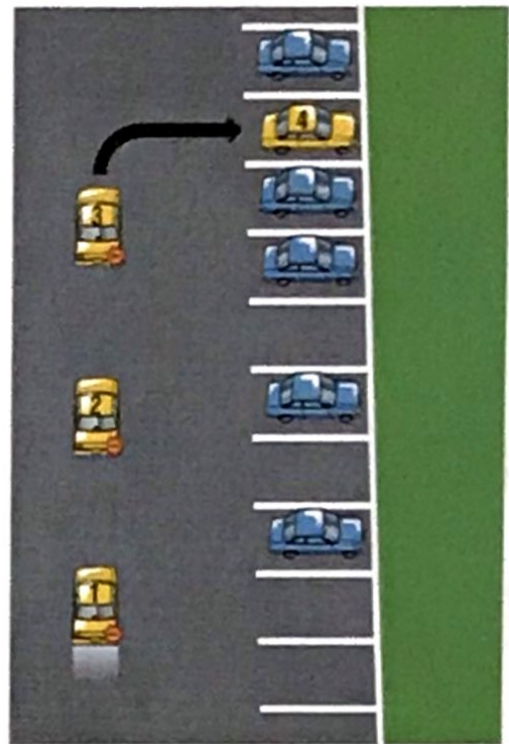
Use **angle parking** to park your vehicle diagonally to the curb. Angle parking is often used in parking lots and shopping centers.

1. Check for traffic and pedestrians. Position your vehicle at least six feet from the row of parked vehicles. Signal a right turn, check traffic to the rear, and begin braking.
2. Flash your brake lights to warn drivers behind. Check your right blind spot and continue braking.
3. Creep forward until you can see the center of the space without your line of sight cutting across the parking line. This is your reference point to begin turning. Turn the wheels sharply to the right. Slowly enter the stall.
4. Straighten the wheels when you are centered in the space. Determine your forward reference point to place the front of the bumper even with the curb or parking line.

Perpendicular Parking

Use **perpendicular parking** to park your vehicle at a right angle to the curb.

1. Position your vehicle at least eight feet from the row of parked vehicles, or as far to the left of the lane as possible. Flash your brake lights and signal a right



Perpendicular parking

- turn. Check your right blind spot, and begin to brake.
2. Check traffic to the rear, and continue braking.
3. Determine your personal reference point to know when the front bumper of your vehicle passes the left rear taillight of the vehicle to the right of the empty parking space. Turn the wheel sharply right. Slowly enter the stall. Check your right-rear fender for clearance.
4. Straighten the wheels when you are centered in the space. Use a forward reference point, like the driver's side-view mirror, to stop before the wheels strike the curb.

Some drivers prefer backing into a perpendicular parking space. These drivers consider this a safer maneuver because they do not back out into traffic when leaving the space.

Leaving an Angle or Perpendicular Space

Your view often will be blocked as you begin to back into moving traffic. Back slowly. Look to the rear and to the sides as you search for other roadway users and pedestrians.

1. Creep straight back while you control speed with your foot brake. (Hold the clutch at the friction point in a stickshift vehicle.)
2. When your front bumper is even with the rear bumper of the vehicle on your left, begin to turn right.
3. Back into the nearest lane and stop with the wheels straight. Shift to a forward gear and proceed as you scan your front and rear zones.

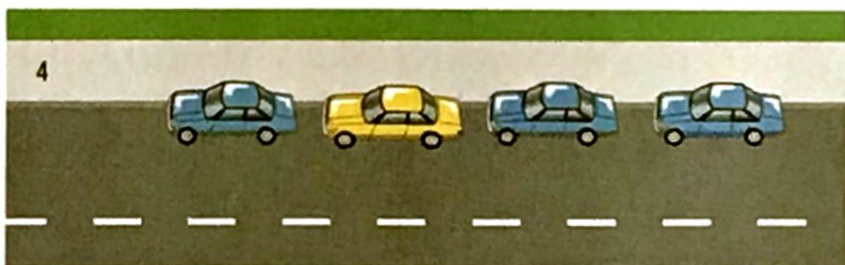
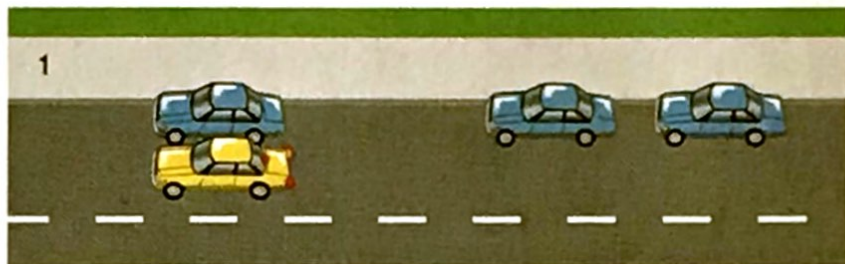
Parallel Parking

Use **parallel parking** to park your vehicle parallel to the curb. Select a space that is five to six feet longer than your vehicle. During the maneuver, the front of your vehicle will swing far to the left. Check over your left shoulder to be sure this needed space is clear.

1. Flash brake lights, and signal a right turn. Stop two to three feet away from the front vehicle with the two rear bumpers even. Shift to REVERSE. Check traffic. Look back over your right shoulder. Back slowly as you turn right. Aim toward the right-rear corner of the space. Control speed with your foot brake (clutch at friction point in a stickshift vehicle).
2. When the back of your seat is even with the rear bumper of the front vehicle, straighten the wheels.

Determine your personal reference point for this position. Slowly back straight. Look over your shoulder, through the rear window.

3. When your front bumper is even with the front vehicle's back bumper, turn your wheels sharply left. Back slowly. Look out the rear window.
4. When your vehicle is parallel to the curb, straighten wheels and stop before you touch the vehicle behind. Develop reference points



Steps for parallel parking



to know your distance from the curb and from the vehicle behind you. Slowly pull forward to center your vehicle in the space.

Leaving a Parallel Parking Space

You are responsible for avoiding a collision when leaving a parallel parking space. Yield to all traffic.

1. Back straight slowly until your rear bumper almost touches the vehicle behind. Turn wheels sharply left as you stop.
2. Signal a left turn. Check your left blind spot. Move forward slowly.
3. Check the right-front corner of your vehicle for clearance.
4. Turn your wheels slowly to the right when you are halfway out of the parking space. Scan front zones and accelerate gently as you center your vehicle in the traffic lane.

Parking on Hills

When parallel parking on a hill, you must be sure your vehicle will not roll down into traffic. Always turn the front wheels and set the parking brake to prevent the vehicle from rolling downhill. Procedures for uphill and

downhill parking apply to parking on the right side of the street or roadway. Adjust your actions and visual checks when parking on the left side.

Uphill Parking with a Curb

1. Using personal reference points, position your vehicle close to the curb. Just before stopping, turn the steering wheel sharply left as shown in the first picture on the opposite page.
2. Shift to NEUTRAL. Let the vehicle creep back slowly until the back of the right-front tire gently touches the curb.
3. Shift to PARK (FIRST in a stick-shift), and set the parking brake.
4. When leaving the parking space, signal, check traffic, and accelerate gently into the lane of traffic.

Uphill Parking with No Curb

1. Pull as far off the roadway as possible. Just before you stop, turn the steering wheel sharply right, as in the second picture.
2. Shift to PARK (FIRST in a stick-shift), and set the parking brake.
3. When leaving the parking space, let the vehicle creep backward while straightening the wheels. Signal and check traffic. Shift to DRIVE (FIRST in a stickshift), and accelerate gently into traffic.

Downhill Parking with a Curb

1. Position your vehicle close to the curb and stop.
2. Let the vehicle creep forward slowly while turning the steering

wheel sharply right, as in the third picture. Let the right-front tire rest gently against the curb.

3. Shift to PARK (REVERSE in a stickshift), and set the parking brake.
4. When leaving the parking space, check traffic and back a short distance while straightening the wheels. Signal and check traffic again. Shift to DRIVE (FIRST in a stickshift), and accelerate into traffic.

Downhill Parking with No Curb

Follow the same procedure as downhill parking with a curb. Turn wheels sharply right as you creep as near to the shoulder as possible. Note this position in the fourth picture. Use the same steps for parking downhill with a curb to

complete the maneuver and to leave the parking space.

When you leave any hilly parking space, make sure you have a big enough gap to enter traffic safely. Traffic coming down the hill may be approaching faster than you think it is.

Starting on a Hill

At times, you might have to stop while going up a hill. You must then be able to start moving forward again *without rolling back*. Starting on an uphill grade without rolling back involves timing and coordination.

Using Automatic Transmission

One method for starting on a hill without rolling back involves using



Uphill parking with curb



Uphill parking with no curb



Downhill parking with curb



Downhill parking with no curb

the parking brake. Follow these steps when using this method:

1. While holding the foot brake down, set the parking brake firmly.
2. Move your foot to the accelerator, and accelerate until you feel the engine start to pull.
3. Release the parking brake as you continue to accelerate.

A second method for starting on a hill involves using only the foot brake.

1. Hold the foot brake down with your *left* foot.
2. While still holding the foot brake with your *left* foot, accelerate gradually until the engine starts to pull.
3. Release the foot brake gently as you increase acceleration to move forward.

Using a Stickshift One method for starting on a hill in a stickshift vehicle involves the use of the parking brake. Follow these steps in a stickshift vehicle:

1. Be sure the parking brake is set. Shift to **FIRST**.
2. Use one hand to hold the steering wheel. Hold the parking brake release with the other hand.
3. Accelerate to a fast idle. Let the clutch out to the friction point.
4. Release the parking brake slowly when you feel the engine begin to pull.
5. Increase pressure on the accelerator, and let the clutch all the way up as your vehicle begins to move forward. Completely release the parking brake.

You might be able to coordinate the clutch and accelerator to move

forward without using the parking brake. Follow these steps:

1. Shift to **FIRST** while stopped.
2. Keep the foot brake down while releasing the clutch slowly, just to the friction point.
3. Move your right foot quickly from the foot brake to the accelerator. Accelerate gently.
4. Release the clutch smoothly, and accelerate gradually.



SAFE DRIVING

Starting on a hill in a stickshift can be difficult. Practice first on gentle slopes away from traffic before you need to start moving on a steep hill. Use the method with which you feel most secure and comfortable.

Review It

1. What are standard reference points? How can you adapt them to become personal reference points?
2. What are the steps for angle parking? perpendicular parking? parallel parking?
3. Which way should your front wheels be turned when parking uphill with a curb? uphill with no curb? downhill with a curb? downhill with no curb?
4. How do you use the parking brake to start on a hill without rolling backwards?

Chapter 6 Review

Reviewing Chapter Objectives

1. Steering, Signaling, and Changing Lanes

1. How do you steer straight forward and backward? (110)
2. How do you use hand signals correctly and when should you use them? (111)
3. What are the proper steps for changing lanes? (112)

2. Making Turns and Turning the Vehicle Around

4. What is hand-over-hand steering? (113)
5. What are the steps for making right and left turns? (114)
6. How do you back left and right? (115)
7. How do you execute the five turnabout maneuvers, and which is the safest to use? (116–118)

3. Parking

8. What are reference points and how do you use them as guides when parking your vehicle? (119)
9. What are the procedures for angle, perpendicular, and parallel parking? (120–122)
10. How do you park uphill and downhill with and without a curb? (122–123)
11. How do you start from an uphill parking space without rolling backwards? (123–124)

Projects

Individuals

Investigate Research your state's laws on turnabouts. Which of the turnabouts described in the text are legal in your state, and which are illegal?

Observe Traffic Locate a busy street in your area on which vehicles must parallel park. Observe vehicles parallel parking for at least a half hour. Record how many attempts to parallel park each vehicle makes. What are the most common errors the drivers make in attempting to parallel park?

Practice Establish personal reference points in your family vehicle that you can use when you park. Compare your personal reference points with those of your classmates. Are the reference points you have in common "standard reference points"? Why or why not?

Groups

Debate Divide the group into two smaller groups to debate the pros and cons of shared left-turn lanes. Make a list of the pros and cons your group discusses. Share the list with your class.

Demonstrate Take turns demonstrating the hand and arm signals you use when turning and stopping. Present your group demonstration to the class.

Chapter 6 Review

Chapter Test

Check Your Knowledge

Multiple Choice Copy the number of each sentence below on a sheet of paper. Choose the letter of the answer that best completes the statement or answers the question.

- To steer straight forward, look
 - at your hand position on the steering wheel.
 - at the center line or lane lines.
 - left and right to judge available space.
 - far ahead toward the center of your path.
- To make the correct hand signal for a left turn, your left arm and hand should be
 - extended straight.
 - pointing up.
 - pointing down.
 - waving left.
- The first step to take before you begin a lane-change maneuver is to
 - check the blind spot over your left shoulder.
 - check that roadway ahead has no obstructions.
 - hand signal a stop.
 - steer slightly into the next lane.
- Backing a stickshift vehicle requires skillful use of the
 - brake pedal.
 - turn signals.
 - gearshift lever.
 - clutch pedal.

Completion Copy the number of each sentence below on a sheet of paper. After the number, write the word or words that complete the sentence correctly.

- Before backing, make sure your _____ zones are clear.
- _____ signals are easier to see in bright sunlight.
- When changing lanes, _____ can cause your vehicle to turn too sharply.
- Perform a _____ only when there are no drive-ways to use for another type of turnabout.

Review Vocabulary

Copy the number of each definition in list A. Match the definition in list A with the term it defines in list B.

List A

- a part of the outside or inside of the vehicle, as viewed from the driver's seat, that relates to some part of the roadway
- not turning the steering wheel enough
- parking vehicle diagonally to curb
- maneuver for turning your vehicle around to go in the opposite direction
- parking vehicle at right angle to curb
- pushing the steering wheel up with one hand and down with the other
- turning the steering wheel too much

List B

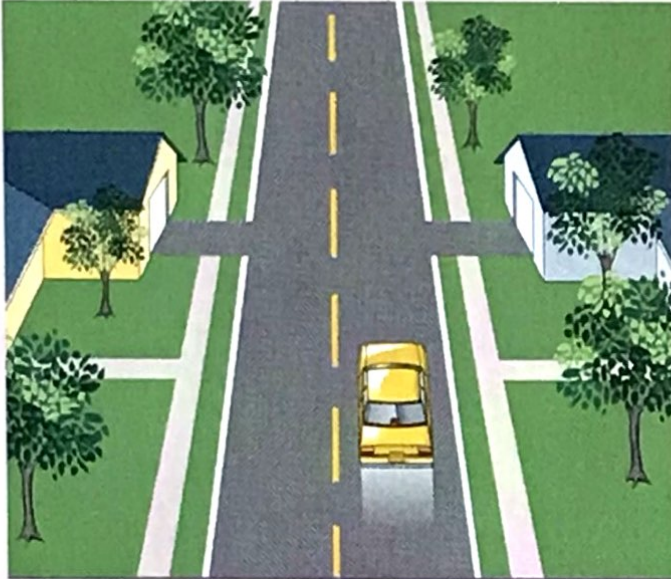
- | | |
|--------------------------|------------------|
| a. turnabout | e. oversteering |
| b. push-pull steering | f. understeering |
| c. reference point | g. angle parking |
| d. perpendicular parking | |

Think Critically

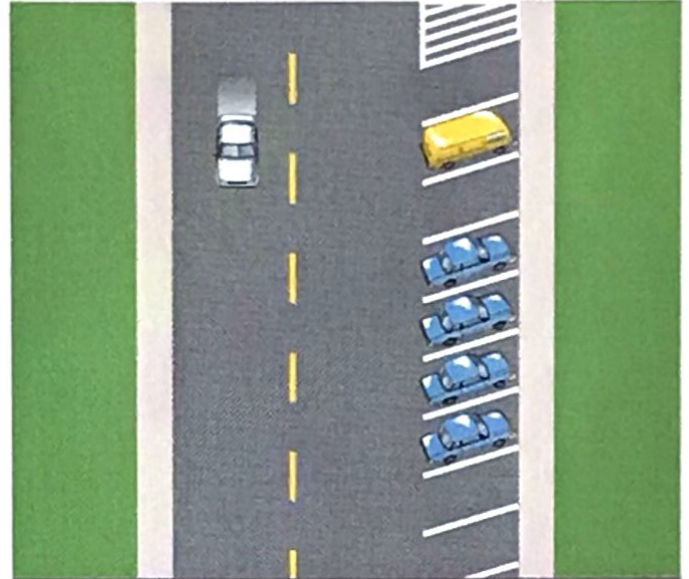
Write a paragraph to answer each question.

- You are driving down a two-way, two-lane street in a residential area at night during a storm. You notice that a large tree has fallen down across the roadway ahead of you. What type of turnabout should you make and why?
- When parking on a hill, what can you do to make sure that your vehicle will not roll down into traffic?

Decision Making



1. You are the driver in this picture and need to make a turnabout. What type of turnabout would you choose? Why would you choose this type?



2. If you were planning to park in the row of angle-parked vehicles, which parking space would you choose to use? Why is this space the safest?



3. What procedure must the driver of the blue car follow when leaving the parallel parking space? If there is a collision, who is at fault? Why?



4. Which direction should the front wheels be turned for the vehicles parked uphill? for the vehicles parked downhill? Why is this important?