

Vehicle Maneuvers

12

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Once you have acquired the correct approach to the vehicle, pre-ignition procedures and driver's compartment drill habits, as well as a good understanding of the driver operational tasks, the real challenge begins.

To build a proper house, you must first lay a solid foundation. Similarly, in driving, you establish the basics. Next, it is necessary to build upon this base, one step at a time, mastering each new skill or technique before proceeding to the next level.

Initially, it's a challenge just to enter the flow of traffic, drive in a straight line, gain proficiency in the driver operational tasks (accelerate, steer, and brake), and then return to a parked position. With time and practice, you'll be able to perform all of these more easily and with a growing degree of confidence.



AFTER COMPLETING THIS CHAPTER, THE STUDENT MUST BE ABLE TO IDENTIFY, DESCRIBE, AND PERFORM :

- pre-drive checks, pre-ignition control tasks, and starting procedures.
- basic maneuvers- putting the vehicle in motion, entering traffic, stopping, following and exiting traffic, as well as securing and exiting the vehicle.
- the procedures for backing safely.

BASIC MANEUVERS:

Driving a vehicle in the HTS requires that you plan each maneuver, check that it can be performed safely, signal your intentions, and then proceed to actually execute the maneuver cautiously and with skill. The sequence of actions for any maneuver should be sub-divided into stages: Evaluate, Prepare, and Execute (the EPE System).

EVALUATE:

At this stage, even though you should be aware of the traffic environment, examine the situation for signs and road markings, check your mirrors and blind spot, and decide whether to perform the maneuver.

PREPARE:

Having decided, signal your intentions and recheck the mirrors and blind spot to ensure that you can proceed to the final stage.

EXECUTE:

This stage involves using the controls of the vehicle to perform the actual maneuver: the steering wheel, the accelerator pedal or the brake pedal. While executing the maneuver, look where you want to go, guiding your vehicle. When complete, verify the turn signal is no longer activated.

Throughout the explanation of any maneuvers in this text, this EPE stage system will be applied.





Entering Traffic

Before proceeding to enter traffic, you should review the procedures for approaching, arriving at, and starting the vehicle that are found in Chapter 7. The procedures for moving into roadway activity will vary depending on the particular vehicle.

AUTOMATIC TRANSMISSION

The engine is already running as described earlier.

Depress the brake pedal **(1)** and maintain it in this position. (Make sure the pedal feels firm.)

Move the selector lever to the **"D" Drive** position **(2)**. (You should already know the correct procedure for your vehicle.)

Release the parking brake **(3)**.

EVALUATE

- Ensure there is sufficient space to enter traffic (gap in traffic).
- Check in the rear-view mirrors and the blind spot **(4)**.

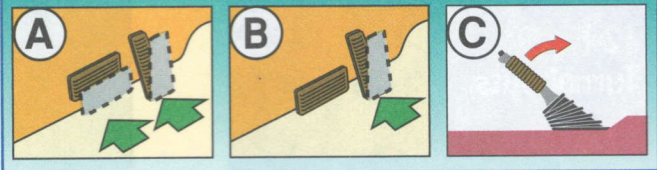
PREPARE

- Activate the turn signal. If there is any doubt as to the signal being seen, also use a hand signal **(5)**.
- Recheck in the mirrors and the blind spot **(6)**.

EXECUTE

- Release the brake pedal while looking towards your intended path **(7)** (target path of travel).
- Turn the steering wheel smoothly, as needed **(8)**.
- Depress the gas pedal gently; increase pressure and speed, as required **(9)** (accelerator control).
- Use smooth steering movement to position vehicle in lane (preferably center of lane position).
- Check the traffic, and be prepared to adjust

STARTING ON AN UPHILL SLOPE



When starting uphill, the left foot may be used on the brake to prevent a rollback **(A)**. Release the brake **(B)** when the accelerator causes the vehicle to pull forward.

On very steep hills, the parking brake **(C)** may be used to prevent rollback and should be released at this time instead of using the left foot. (New technology - an electric parking brake does this automatically as mentioned in Chapter 8.)

ENTERING TRAFFIC: AUTOMATIC TRANSMISSION

1 	APPLY BRAKE PEDAL	4 	MIRRORS & BLIND SPOT	7 	RELEASE BRAKE PEDAL
2 	SHIFT TO DRIVE (AUTO "D")	5 	TURN SIGNAL AND HAND SIGNAL	8 	LOOK AND STEER
3 	RELEASE PARKING BRAKE	6 	RE-CHECK MIRRORS AND BLIND SPOT	9 	ACCELERATE AS NEEDED



	DEPRESS CLUTCH AND BRAKE		MIRRORS & BLIND SPOT	ENTERING TRAFFIC: STANDARD TRANSMISSION	
	SHIFT TO FIRST GEAR		TURN SIGNAL & HAND SIGNAL		
	RELEASE PARKING BRAKE		RE-CHECK MIRRORS AND BLIND SPOT		CLUTCH TO FRICTION POINT
					RELEASE BRAKE PEDAL
					LOOK AND STEER
					GAS AND RAISE CLUTCH

STANDARD TRANSMISSION

The procedure for entering traffic (see below) is similar to what was presented for the automatic.

- Depress the brake and clutch pedal completely (1).
- Place the gear shift lever in first gear (2).
- Steps (3) to (6) are identical.

THEN:

- Raise the clutch pedal to the friction point (engine r.p.m. slows slightly) (7).
- Release the brake pedal (8).
- Look towards your intended path of travel and steer where you want to go (9).
- Lightly apply the gas while raising the clutch

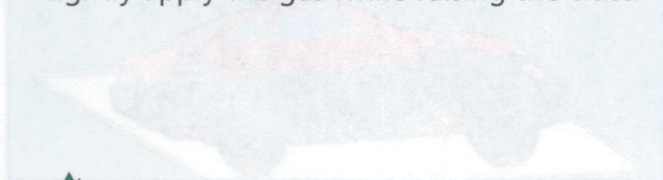
pedal smoothly (10).
 • Steer and accelerate as needed.

STEEP HILLS (STANDARD TRANSMISSION)

This technique is effective in all situations except the steepest of hills. In those cases, the parking brake (A) may be left engaged until the vehicle begins to pull forward (B) then release the parking brake (C) thus preventing any rollback. (An electric parking brake would do this for you.)

ON A STEEP UPHILL SLOPE (STANDARD)

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Driving in Traffic

Since you are just beginning to participate in roadway activity, you must consider a few basic principles for interacting with other road users.

FOLLOWING TIME

As discussed in Chapter 11, the absolute minimum following distance in ideal driving conditions should be the "THREE SECOND TIME INTERVAL" as a novice driver. Moreover, you

The transfer of the concentration of weight from one point on the vehicle to another is caused by driver inputs - acceleration, deceleration, and steering.

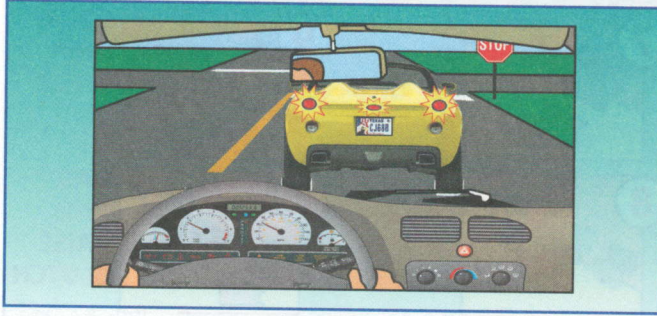
must increase your following distance to adapt to the factors present in the driving environment.

SLOWING OR STOPPING

To reduce speed, tap the brake pedal (communicate with brake lights), and check the rear view mirror. Adjust your vehicle position accordingly. Then re-apply the brake firmly (plan to stop prior to intended location). Prior



to stopping, decrease pressure slightly (for a smooth stop). To remain stopped, maintain pressure on the brake pedal.



When you stop behind another vehicle, maintain a distance of at least one half a car length. At this distance, you should be able to see the rear tires touching the roadway over the top of your hoodline.

This space will enable you to:

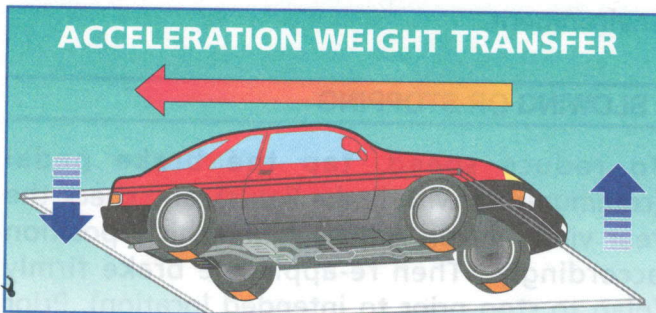
- change lanes if the lane is blocked, a vehicle ahead stalls, or a rear-end collision is imminent;
- leave the vehicle ahead space to maneuver (to reverse);
- avoid a roll back as the vehicle starts to advance up a slope; and also
- avoid carbon monoxide and hot exhaust from affecting you or your vehicle.

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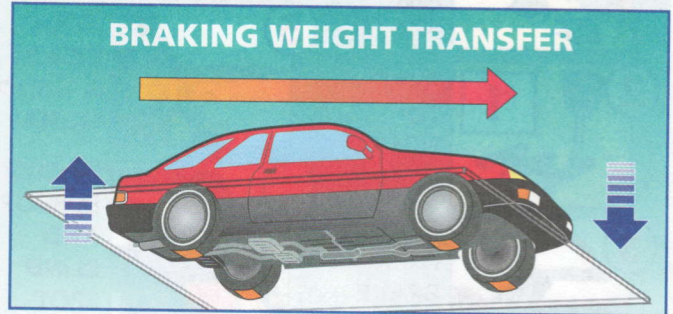
VEHICLE BALANCE - WEIGHT TRANSFER

The transfer of the concentration of weight from one point on the vehicle to another is caused by driver inputs - acceleration, deceleration, and steering.

Acceleration transfers weight to the rear, lightening the front and reducing front traction. This is referred to as pitch towards the rear. If the acceleration is sudden and hard,

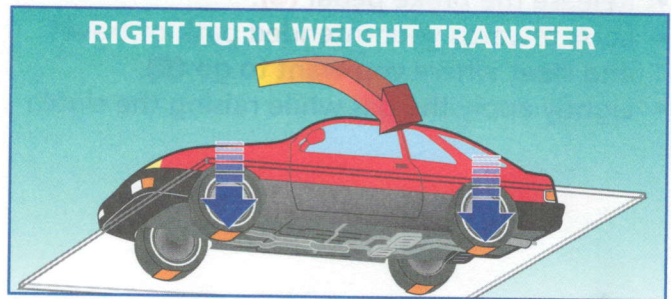


there is a noticeable drop of the rear of the vehicle, and occupants can feel the rearward thrust.

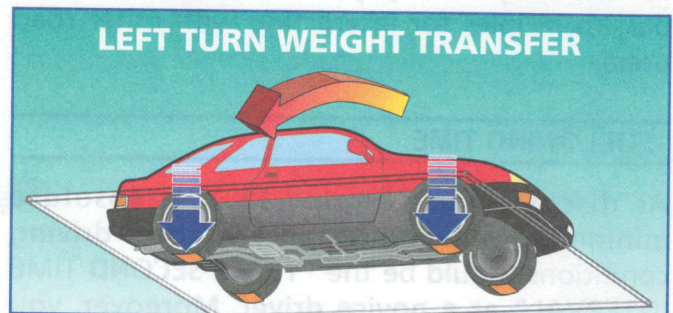


Applying the brake pedal transfers weight to the front, lightening the rear and rear traction. This is called **pitch** towards the front. If braking is hard, the hood drops, the rear rises, and occupants feel the forward movement.

Steering input transfers weight from one side of the vehicle to the other. This is referred to as **roll**. The shift is related to your speed, the traction available, and the amount of steering input. Occupants may or may not feel the forward movement toward the corner of the vehicle opposite the turn. **When you steer toward the right,** the vehicle rolls to the left.



Steering to the left transfers weight to the right. The skill of the driver is to minimize weight transfer through precise movements of steering, smooth and progressive acceleration, and controlled braking.



SAFETY TIPS



Vehicle balance can be affected by the slope of the road as well as driver inputs. Vehicles with a higher center of gravity - pickups, roof-top carriers, etc. are more susceptible to weight transfer problems which if uncorrected can lead to loss of control (rollovers). Modern technology (Electronic Stability Control - ESC or ESP Systems) can help the driver maintain or regain control.



Exiting Traffic

To leave the traffic lane and park your vehicle, the simplest and safest method is to steer towards the curb from the lane beside the parked vehicles. This requires a large space, at least twice the length of your vehicle.

EVALUATE

- Locate a parking space, while still paying attention to the traffic around you (1).
- Check for signs and pavement markings that govern parking.
- Check mirrors and blind spot.

IS THE MANEUVER SAFE / LEGAL?

PREPARE

- Activate your turn signal (2).
When parking just after an intersection, wait until you enter it to signal, in order to avoid confusing other road users.
- Tap the brake pedal, (3), check the mirrors,

and then apply steady pressure to reduce your speed.

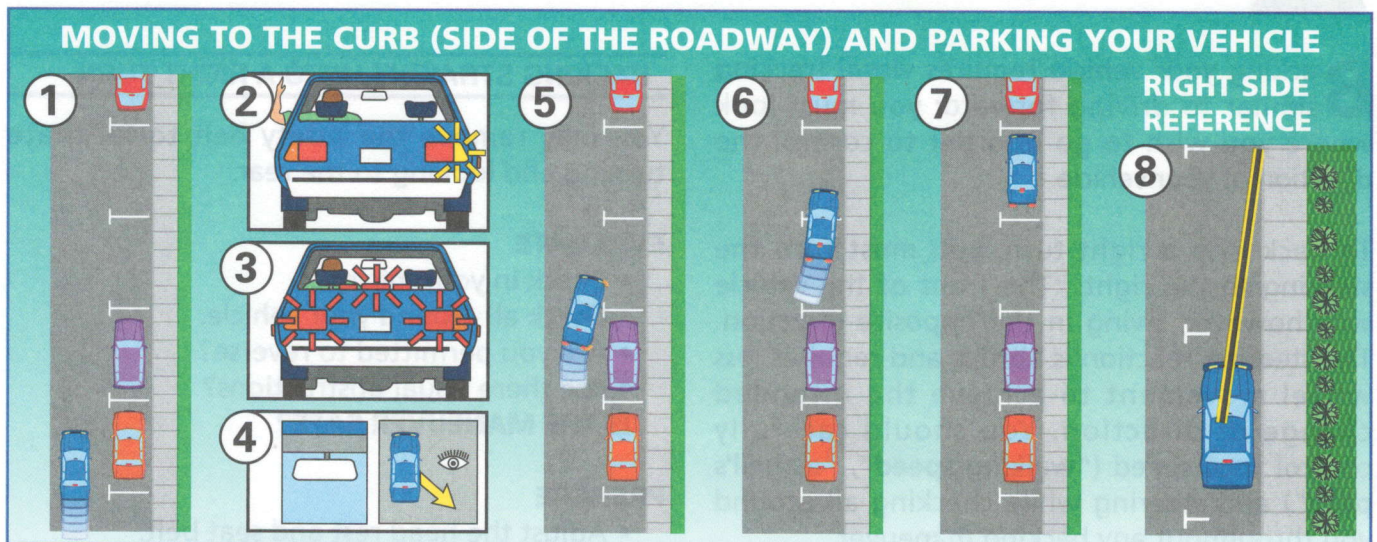
- Recheck your mirrors and blind spot before turning. (4).

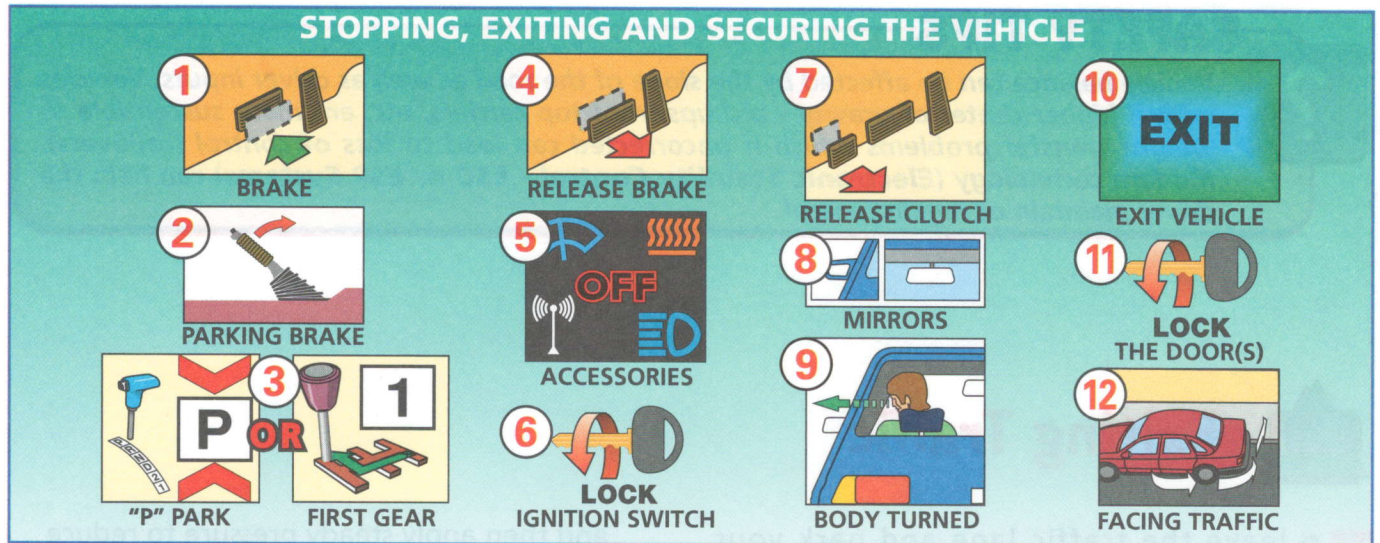
EXECUTE

- When the front of your vehicle reaches the space (front reference), steer towards the curb (5).
- Continue slowing while steering to a stop parallel to the side of the road (6) (right side reference - (8)).
- Be sure the turn signal is off.
- Center your vehicle in the parking space within a foot of the curb (7).

EXITING AND SECURING THE VEHICLE

See the diagram at the top of page 12.6. Once the vehicle is stopped (1), engage the parking





brake (2) (required by Texas law), ease up and re-apply the brake pedal (to check the parking brake is applied), then shift the selector lever to **P** for **Park** (3) (automatic) or first/reverse (standard) (3).

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Release the brake pedal (4). Turn off all accessories (5), lights, comfort controls, and close all windows. Turn the ignition switch to the lock position (except **Keyless Technology**) (6), and remove the key (required by Texas

law). Release the clutch pedal (7) (standard). Remove your seat belt. Check the left mirror and blind spot (8). Use your right hand to unlock and open the driver's door (9) (automatically checking traffic). Exit carefully (where appropriate, on curb side) (10), lock the door (check all doors) (11), and walk toward the rear of your vehicle facing the traffic (12).

These precautions should also apply to the passengers exiting your vehicle.



Backing

Backing your vehicle requires visual tracking similar to driving forward; you must look where you wish to go in order to control the direction of your vehicle.

To back into a right turn, you must turn the steering to the right. The front of the vehicle will, however, swing in the opposite direction. The steering reaction is abrupt and requires less wheel movement to achieve the intended change of direction. You should carefully control your speed ("walking speed", "a snail's pace") and steering while checking all around you throughout any backing maneuver.

BACKING STRAIGHT / INTO A RIGHT TURN

You may remove the safety belt to facilitate turning and looking to the rear.

EVALUATE

- Check in your mirrors.
- Check all around your vehicle.
- Are you permitted to reverse?
- Are there visual obstructions?

IS THE MANEUVER SAFE?

PREPARE

- Adjust the head rest and seat belt.



BACKING STRAIGHT

- Apply the brake pedal.
- Shift the selector lever to **(R)** Reverse (white back-up lights alert others) which also activates the backup sensors/camera and (on some vehicles) cross-traffic sensors..
- Release the parking brake (if it is engaged).
- Activate the turn signal (if you are turning).
- Recheck around your vehicle.
- Place your left hand at 12 o'clock on the steering wheel.
- Turn your torso and head to the right until you can see out the rear window (when backing straight - see above, you may place your right arm across the top of the passenger seat).

EXECUTE

- Ease up on the brake pedal to start reversing slowly.
- Maintain pressure to control your speed (walking speed).
- Glance frequently ahead and to the sides (rear turn reference)
- When turning, use both hands and check that the left front of your vehicle clears all obstructions.
- Apply the brake pedal to stop.

BACKING INTO A RIGHT TURN

In most cases, your vehicle will roll by releasing the brake pedal; if necessary, gently press the accelerator to start the vehicle in motion. On uphill slopes, you may have to use the gas to keep it moving. The situation can change very quickly. Move slowly (walking speed) to allow you time to check around your vehicle easily and often.

If you turned while backing, begin to straighten the wheel as you stop. Do not change position and look forward until after you have stopped.

BACKING INTO A LEFT TURN**BACKING INTO A LEFT TURN,**

Follow the same EPE procedure except:

PREPARE

- Place your right hand at 12 o'clock on the steering wheel.
- Turn your torso and head to the left until you can see to the left rear (rear turning reference).

While backing into a left turn, the right front of your vehicle will swing out; check that it will clear all obstructions while you turn. Also, your view to the right rear is limited in this position; include a glance to the right rear as you turn to check ahead and to the sides.

FOR A STANDARD TRANSMISSION

Follow the EPE procedures described. To set your vehicle in motion, use the clutch friction point (except on an uphill slope, when you will need to use the accelerator as well). Ease up or depress the clutch pedal to control your speed. Cover the brake pedal, so you are ready to stop.



SAFETY TIPS



The white reverse lights (commonly called backup lights) are a signal to other road users of your intention to back your vehicle. Use the turn signals only when you will be backing into a right or left turn.

Establish a target area with an open line of sight; move slowly (at walking speed or a snail's pace); then apply rear turning references when you steer where you wish to go.



Changing Lanes

Whether to avoid an obstacle, pass another vehicle, prepare for a turn, leave the roadway, or merely to increase space from a potential hazard (where a change in lane position will not suffice), you must change lanes.

CHANGING LANES

To alter your position (from one lane to another) on the roadway, you must apply the EPE System.

I2

EVALUATE

- Check ahead in your lane and the lane you want to enter (space, speed, obstacles) **(1a)**.
- Is the maneuver permitted?
- Check mirrors and blind spot (space and speed) **(1b and 1c)**.

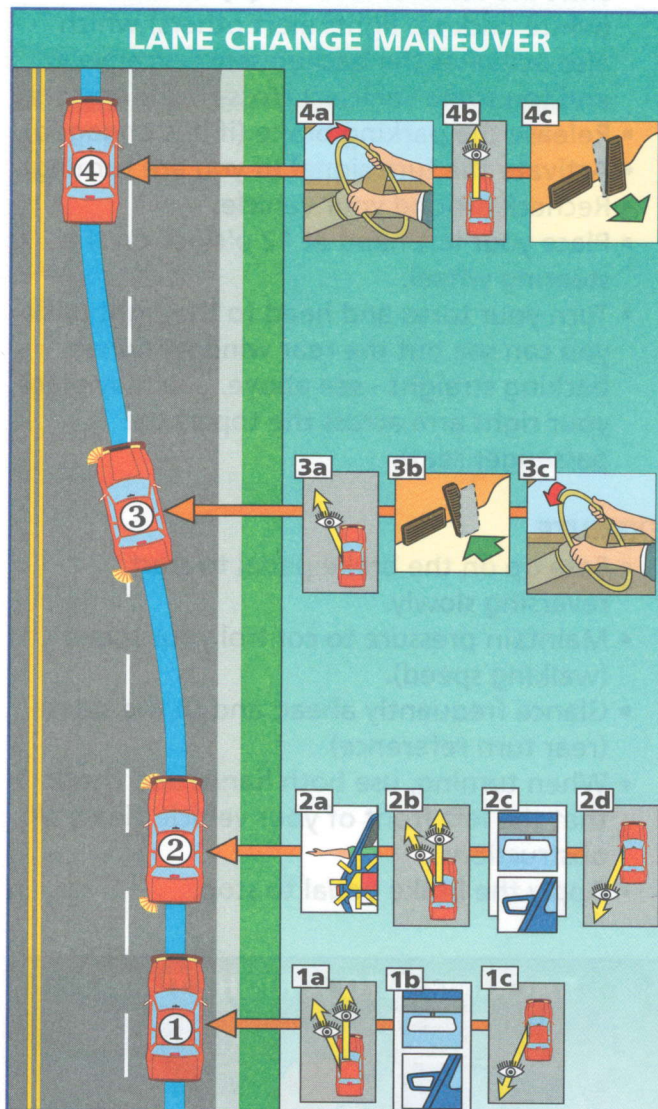
IS THIS MANEUVER SAFE?

PREPARE

- Signal your intention **(2a)**.
- Recheck traffic ahead **(2b)**.
- Recheck mirrors and blind spot **(2c and 2d)** (Standard- shift to the appropriate gear).

EXECUTE

- Aim high- target the center of the intended lane **(3a)**.
- Adjust speed (gently accelerate, if the traffic situation permits it) **(3b)**.
- Steer gently (ease into lane) **(3c)**.
- Center your vehicle in the lane (lane position reference point) **(4a)**.
- Readjust speed to the flow of traffic in your new lane **(4c)**.



- Cancel the turn signal (or release the lane changer device).

When changing lanes on multi-lane roadways (3 or more lanes), be sure to check your blind spot across the entire roadway.





Turnabouts

In most circumstances, it is preferable to back into a driveway so that your forward field of vision will take in the whole roadway as you prepare to re-enter traffic. This applies whether parking in your driveway or using one to turnabout.

USING A DRIVEWAY ON THE RIGHT

EVALUATE

- Do you have a clear view?
- Is there traffic behind you?
- Is the driveway clear?
- Will you interfere with traffic (in both directions, pedestrians, other road users)?

IS THIS MANEUVER SAFE?

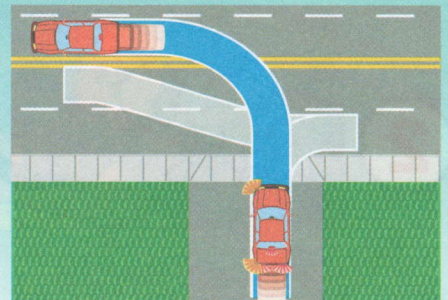
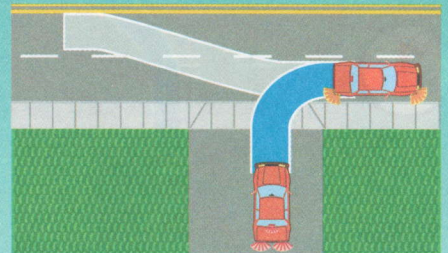
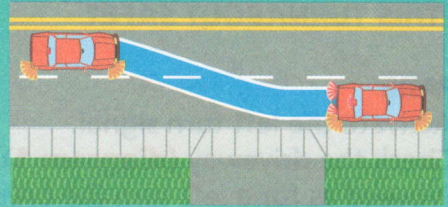
PREPARE

- Perform a right lane change (**diagram A**).
- Stop your vehicle about 3 feet from the curb with the rear just beyond the driveway.
- Check mirror and blind spot.
- Shift to **(R)** Reverse.
- Check all around your vehicle.
- Assume the position for backing into a right turn (**diagram B**).
- Look over your right shoulder toward the right rear.

EXECUTE

- Ease up on the brake (friction point - standard) (**diagram C**).
- Reverse slowly (press gently on the accelerator to start moving, if necessary).
- Target the center of the driveway.
- Turn the steering wheel sharply.
- Recheck traffic to the left.
- As you enter the driveway, countersteer to straighten in the center of the driveway.
- Stop when the front of your vehicle clears the sidewalk (front reference point).
- Shift to **(D)** Drive.
- Activate the left turn signal (**diagram D**).
- Check traffic in both directions.
- Check for pedestrians.

USING A DRIVEWAY ON THE RIGHT



- Yield to any road user close enough who may constitute an immediate hazard.
- Ease off the brake pedal and advance slowly (stop at the sidewalk, if necessary).
- Recheck the traffic situation.
- Recheck for pedestrians.
- Advance into the street and perform a left turn safely.

USING A DRIVEWAY ON YOUR LEFT

Backing across a lane of traffic or reversing into a lane of traffic can be very hazardous and should be avoided whenever possible.



EVALUATE

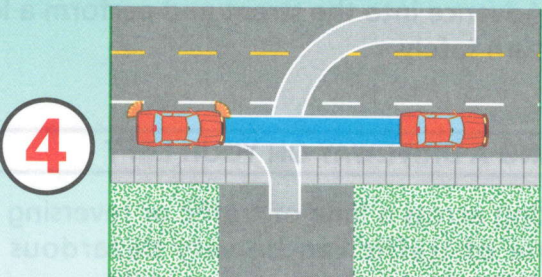
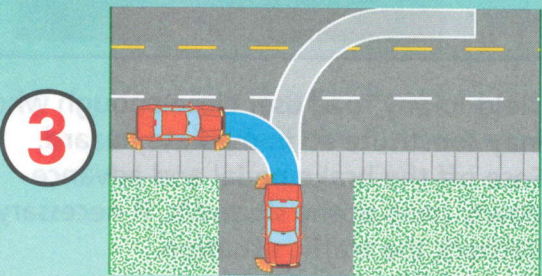
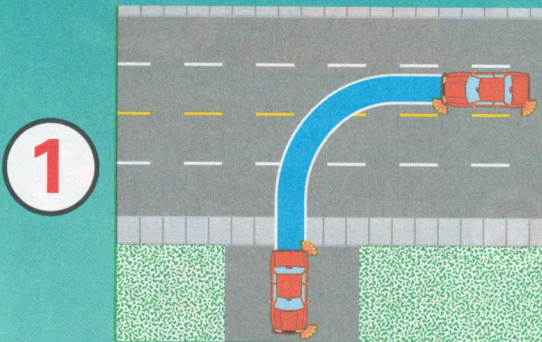
- Check traffic (in both directions).
- Check the driveway for hedges and other objects that may obstruct your vision when you reverse into the roadway.

IS THIS TURNABOUT SAFE?

PREPARE

- Activate the left turn signal.
- Check the driveway (**diagram 1**).
- Proceed as for a left turn (be prepared to stop with the front tires straight).

USING A DRIVEWAY ON THE LEFT



EXECUTE

- Aim at the center of the driveway.
- Steer sharply, advance slowly.
- As you enter the driveway, countersteer to straighten.
- Stop when the rear of your vehicle passes the sidewalk.
- Shift to **(R)** Reverse.
- Activate the right turn signal.
- Check to the left, right and behind your vehicle.
- Assume the position for backing into a right turn (**diagram 2**).
- Reverse slowly, glancing around your vehicle (walking speed, ensure left front clears any obstructions) (**diagram 3**).
- Steer toward the nearest lane.
- Entering the first lane, countersteer to straighten and then stop (**diagram 4**).
- Shift to **(D)** Drive (1st - standard).
- Activate the left turn signal.
- Check mirrors and blind spot.
- Aim down the roadway.
- Accelerate to normal speed.
- Cancel the turn signal.

3-POINT TURN ON THE ROADWAY

This maneuver puts you at more of a risk and should be performed only if the street is too narrow, there are no driveways available, you cannot drive around the block, you have excellent visibility, and the traffic is very light (see diagrams opposite page - **A** to **E**).

EVALUATE

- Are you near hills, curves, or intersections?
- Is the road wide enough?
- Check your line of sight in both directions.
- Can you see 500 feet - both ways?

**IS THERE ANY OTHER OPTION?
IS THE MANEUVER SAFE?**

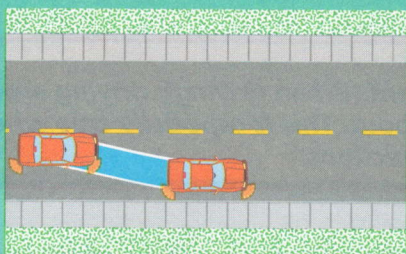
PREPARE

- Perform a right lane change and stop near the right edge of the road (**diagram A**).
- Activate the left turn signal.
- Check the oncoming traffic.
- Check the mirrors and blind spot for traffic to the rear.

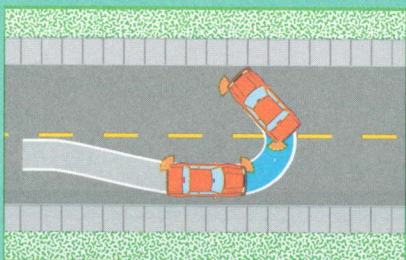


3-POINT TURN ON THE ROADWAY

A



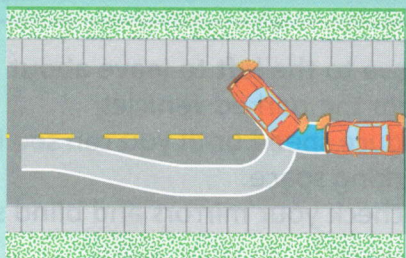
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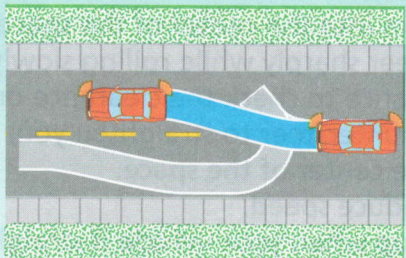
C



D



E



EXECUTE

- Advance slowly, steer sharply towards the left using the hand-over-hand steering technique.
- As you approach the curb, countersteer and then stop (diagram B).

- Activate the right turn signal.
- Shift to (R) Reverse.
- Check traffic in all directions.
- Assume the position for backing into a right turn (diagram C).
- Reverse slowly (walking speed), steering sharply (diagram D).
- Prior to stopping, countersteer.
- Shift to (D) Drive (1st - standard).
- Activate the right turn signal (diagram E).
- Check traffic.
- Target your path of travel.
- Accelerate to normal speed.
- Check the rear-view mirror.
- Verify that the turn signal is off.

U-TURNS

Though a relatively simple and quick way to turnabout, a U-turn requires a wide roadway and is illegal in some places.

EVALUATE

- Is a U-turn permitted?
- Are you near hills or curves?
- Is the road wide enough?
- Can you see 500 feet in both directions?
- Will you interfere with traffic?

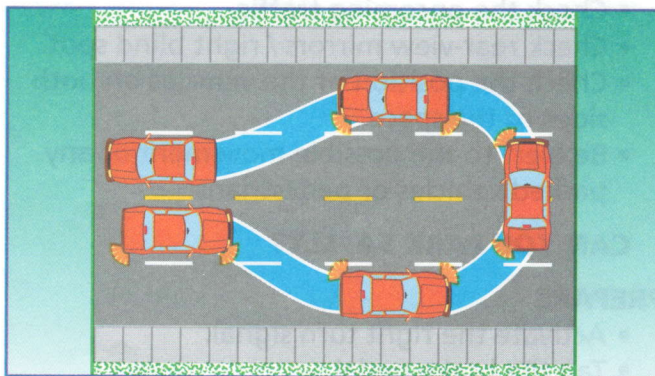
IS A U-TURN SAFE TO PERFORM?

PREPARE

- Change lanes to the right and stop.
- Activate the left turn signal.
- Recheck traffic, mirrors and blind spot.

EXECUTE

- Release the brake pedal.
- Steer left rapidly (hand-over-hand).
- Accelerate gently.



- Target the intended lane.
- Straighten in the lane.

- Accelerate to normal speed.
- Check the rear-view mirror.

SAFETY TIPS



In any high-risk or high-density traffic environment (urban driving), driving around the block would be a much safer means of turning about. This is especially true when you cannot see clearly for at least 500 feet in both directions.



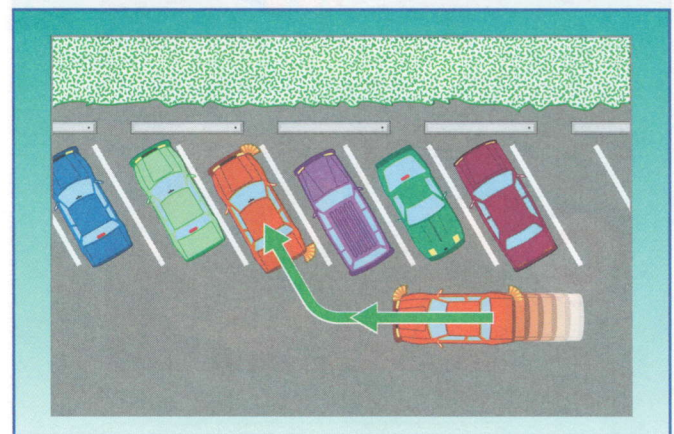
Parking Maneuvers

Though not a dangerous maneuver because of the slow speed, parking requires excellent control of your speed and steering as well as accurate judgment of space. This does not mean that there is no risk. Far too many collisions occur in parking situations. Checking the traffic constantly while maneuvering will diminish the danger.

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Choosing to park your vehicle, whenever possible, so that you may drive into and/or out of the parking space, rather than reversing, will also diminish the risk.

Practice this essential task so that you may perform diagonal, perpendicular and parallel parking maneuvers easily, safely, and with confidence.



- Move to the left to leave about a car width from the parked vehicles.
- Reduce speed until you can see into the parking space.
- Recheck your mirrors and blind spot.

DIAGONAL PARKING

EVALUATE

- Locate a space on your right.
- Check for parking signs.
- Check the oncoming traffic.
- Check rear-view mirrors / right blind spot.
- Check the position of the vehicles on both sides of the space.
- Be alert to the possible movement of any parked vehicles or pedestrians.

CAN YOU PARK SAFELY?

PREPARE

- Activate the right turn signal.
- Tap the brake pedal.

EXECUTE

- Aim into the center of the space.
- Steer sharply while rolling slowly.
- Glance to check the clearance on both side.
- Countersteer to straighten your vehicle into the center of the space.
- Reduce speed.
- Stop when your vehicle is straight and in line with the other parked vehicles (if they are properly parked).
- Follow the procedures to safely exit the vehicle (Chapter 7 and 12-C).

To diagonal park on the left, keep on your side and follow the same procedures substituting left for right.



LEAVING A DIAGONAL PARKING SPACE

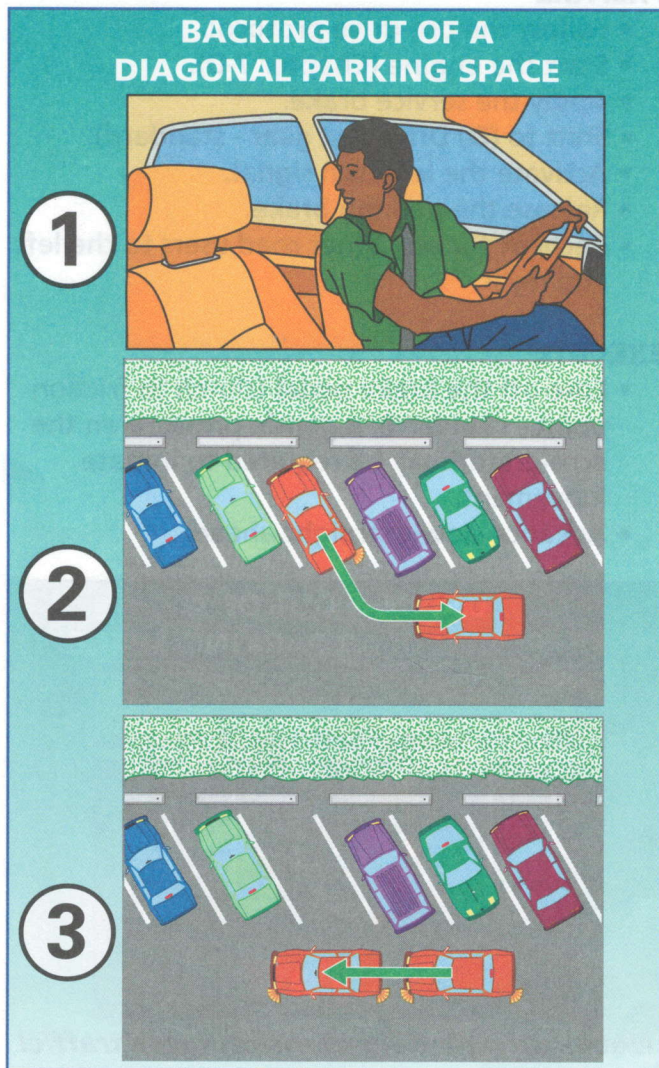
EVALUATE

- Check the position of the front tires as you approach your vehicle.
- Check the flow of traffic

IS BACKING INTO TRAFFIC SAFE?

PREPARE

- Follow your normal pre-driving protocol.
- Apply the (service) brake pedal.
- Start the engine (Chapter 7-D).
- Shift to **(R)** Reverse.
- Activate the right turn signal.
- Release the parking brake.
- Recheck to the left, right and to the rear (verify backup camera, if so equipped).
- Assume the position for backing into a right turn **(diagram 1)**.



EXECUTE:

- Ease off the brake pedal (clutch to friction point -standard), a gentle pressure on the accelerator may be required to initiate movement **(diagram 2)**.
- Reverse slowly and turn the wheel slightly (1/4 turn of the wheel).
- Recheck traffic to the left and right.
- When the front of your vehicle passes the rear of the vehicle on your left (fender clearance), look to the right rear and turn sharply in that direction.
- Re-check traffic and glance to the left rear to check your clearance.
- Just before stopping, countersteer to straighten the wheels **(diagram 3)**.
- Stop, shift to **(D)** Drive (1st - standard).
- Activate the left turn signal.
- Check the traffic in both directions.
- Accelerate to normal speed.
- Cancel the turn signal manually.

BACKING INTO A PERPENDICULAR SPACE

It is easier and safer to back into a space on your right (see diagrams on Page 12.14). Leaving the space will be performed driving forwards into traffic, which is also safer.

EVALUATE

- Locate a space on your right.
- Check the oncoming traffic.
- Check the rear-view mirrors and right blind spot.
- Check the position of vehicles on both sides of the space.
- Be alert to the possible movement of any parked vehicles or other road users.

IS THIS MANEUVER SAFE?

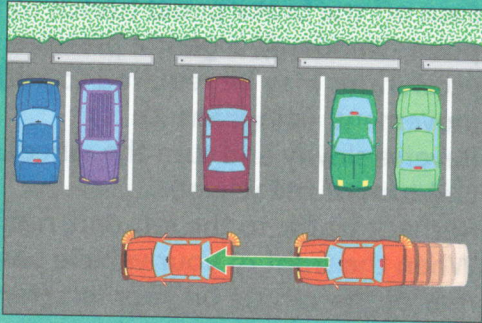
PREPARE

- Activate the right turn signal.
- Tap the brake pedal **(diagram A)**.
- Move to the left to leave about a car width from the parked vehicles.
- Reduce speed and stop when the rear of your vehicle is lined up with the center of the vehicle parked after the space.
- Shift to **(R)** Reverse.
- Recheck mirrors and blind spot.



BACK INTO A PERPENDICULAR SPACE

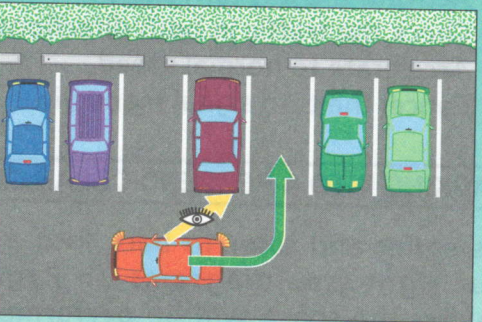
A



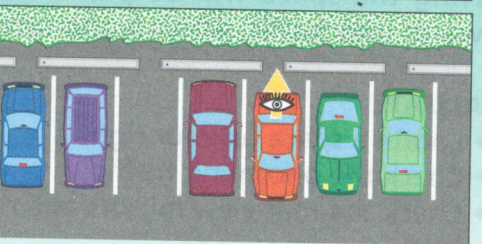
B



C



D



- Assume the position for backing into a right turn (**diagram B**).

EXECUTE

- Ease off the brake (raise the clutch to the friction point - standard).
- A gentle pressure on the accelerator may be needed to initiate movement.
- Target the center of the space.
- Steer sharply to the right (**diagram C**).
- Recheck traffic.
- Glance to check clearance on both sides of the space.
- Countersteer to straighten into the center of the space.
- Stop when your vehicle is aligned with the

parked vehicles (**diagram D**).

- Check the space on both sides; you may have to advance straight ahead and back into the space again to center your vehicle.
- Follow the procedures for exiting the vehicle (Chapter 7 and 12-C).

LEAVING A PERPENDICULAR SPACE

If you positioned your vehicle properly, you will drive forward out of the space (see below).

EVALUATE

- Check the position of the front tires as you approach the vehicle.
- Check the flow of traffic (including pedestrians, bikes).

IS DRIVING INTO TRAFFIC SAFE?

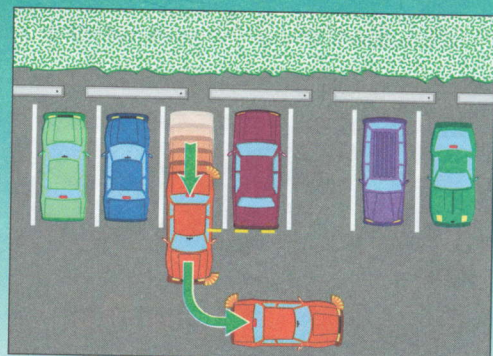
PREPARE

- Follow the pre-drive protocol.
- Start the engine (Chapter 7-D).
- Apply the service brake.
- Shift to (D) Drive (1st gear - standard).
- Activate the left turn signal.
- Release the parking brake.
- Recheck for any other road users to the left and right.

EXECUTE

- Ease off the brake pedal (clutch to friction point - standard); a gentle pressure on the accelerator may be required to initiate movement.
- Advance slowly straight ahead.

DRIVING OUT OF A PERPENDICULAR PARKING SPACE



Note - driver's field of vision faces traffic!



- Recheck traffic left and right.
- When your body passes the end of the vehicle on your left, perform a left turn.
- Accelerate to normal speed.

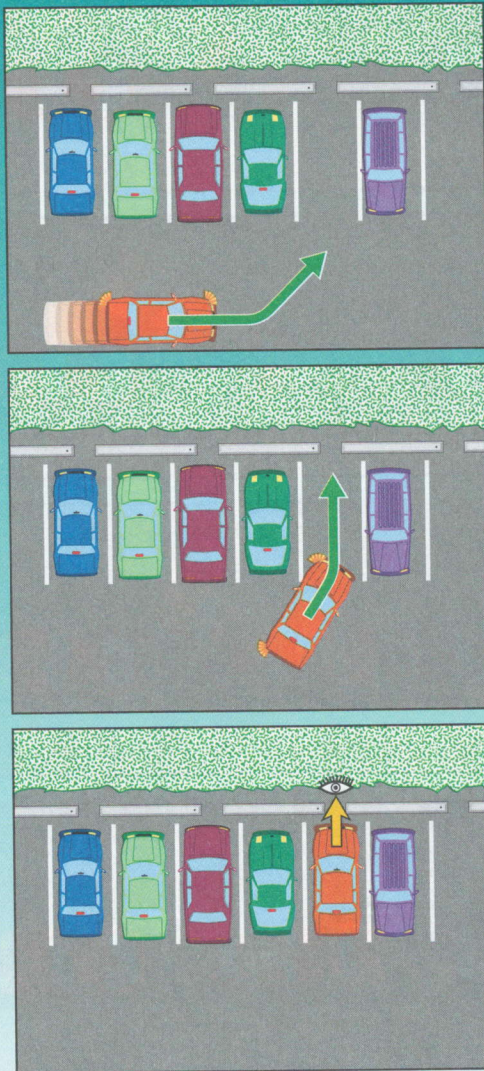
DRIVING INTO A PERPENDICULAR SPACE

It is easier and safer to drive into a space on the left. Ideally, choose a space in the parking lot that permits you to drive forward when you must leave so that you can avoid backing your vehicle into traffic.

EVALUATE

- Choose an available parking space on your left.
- Check traffic (pedestrians as well) in both directions and your left blind spot.

DRIVE INTO A PERPENDICULAR SPACE



- Check the position of the vehicles on both sides of the space.
- Be alert to the possible movement of any parked vehicles.

IS A TURN INTO THE SPACE SAFE?

PREPARE

- Activate the left turn signal.
- Tap the brake pedal.
- Move to the right slightly to leave as much space as possible from the vehicles on the left.
- Reduce speed until you can see into the parking space.
- Recheck your mirrors and blind spot.

EXECUTE

- Aim at the center of the space.
- Steer sharply to the left.
- Maintain a slow speed.
- Glance to check the clearance from the vehicles on both sides.
- Countersteer to straighten into the center of the space.
- Stop when your vehicle is aligned with the other parked vehicles (if they are properly parked). (You may have to back out and re-center.)
- Follow the procedures for exiting your vehicle (Chapter 7 and 12-C).

LEAVING A PERPENDICULAR SPACE

If you chose your parking space carefully and positioned your vehicle properly, you will drive be able to drive forward out of the space.

In this case, follow the procedures outlined for leaving a perpendicular parking space on the facing page (Page 12.14).

If you were unable to find a parking space that enabled you to drive out of the space when you wanted to leave, you must back out of the perpendicular parking space (not the safest choice), follow the procedures outlined for leaving a diagonal parking space on Page 12.13.



PARALLEL PARKING

The ability to perform this maneuver is essential when parking in a crowded urban environment. Look for a space one and a half times the length of your vehicle on the right side of the roadway. It is possible to park in a smaller space; however, it is not recommended.

EVALUATE

- Locate a parking space.
- Make sure the space is legal (sign, driveway, fire hydrant).
- Is the space large enough?
- Are you in the correct lane?
- Check oncoming traffic.
- Check mirrors and blind spot.

IS THE MANEUVER SAFE?

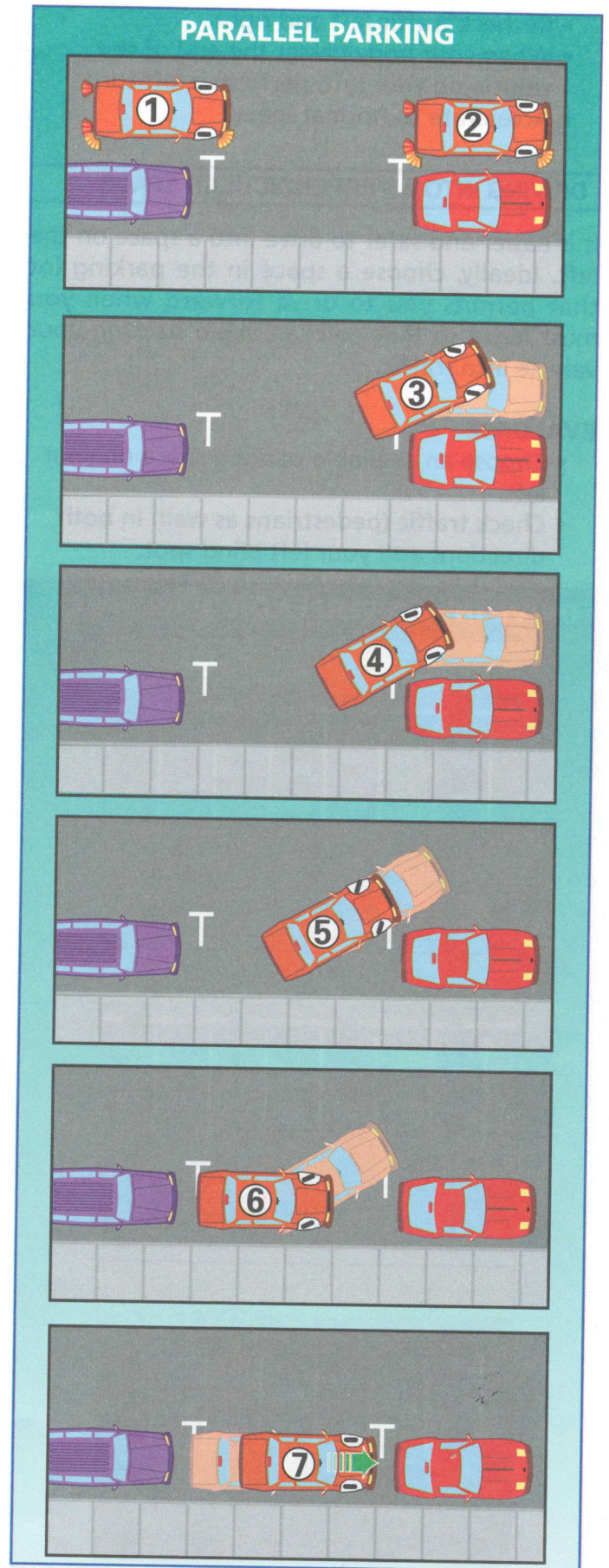
PREPARE

- Tap the brake pedal **(1)**.
- Activate the right turn signal.
- Recheck mirrors and blind spot.
- Reduce speed.
- Stop beside the vehicle **(2)** (parallel to the curb, three feet away, back bumpers in line).
- Shift to **(R)** Reverse.
- Recheck oncoming traffic / left mirror.
- Assume the position for backing into a right turn.

EXECUTE

- Ease off the brake pedal (clutch friction point -standard).
- Gently accelerate to initiate movement, if needed.
- Reverse slowly ("walking speed") (on slopes, the brake or accelerator may be required).
- Turn the steering wheel sharply **(3)**.
- When you reach **(4)** the proper angle (30° to 45° with the curb or in line with front right corner of vehicle behind), countersteer to straighten.
- Control speed (speed tends to increase as wheels straighten).
- When your right front corner clears the vehicle ahead **(5)**, look back and steer left rapidly.
- Prior to stopping, countersteer.
- Stop without touching the vehicle behind **(6)**.

12



SAFETY TIPS



In Texas, you must apply the parking brake, stop the engine, turn the ignition switch to lock, remove the key, and when standing on a grade, turn the front wheels to the curb or side of the roadway whenever you leave your motor vehicle unattended.

Children and pets should never be left in an unattended vehicle without supervision.

- Shift to **(D)** Drive (1st gear -standard).
- Advance slowly **(7)** (straighten and position your vehicle in the center of the space, 6 - 18 inches from the curb).
- Follow the procedures to exit your vehicle (Chapter 7 and 12-C).

Practice this maneuver in order to perform it safely, comfortably, and confidently.

When parallel parking on the left side of the street (one-way street), follow the same procedures, but assume the position for backing into a left turn at the outset, and then turn the wheel in the opposite direction (though this is still towards the curb). When you reach the proper angle and are ready to straighten the wheels, change position to assume the position for backing into a right turn. Use this position until parked; remember to glance forward to check the front fender clearance.



NEW TECHNOLOGY

Many new vehicles are equipped with a system to assist the driver in parallel parking. The simple and intuitive system offers the driver a comfortable and safe method to parallel park in the "tightest" space.

After calculating the length of the available parking space using ultrasound sensors on the front and back bumpers, the system controls the maneuver. It assumes control of the steering movement (the wheel turns automatically). The driver merely shifts to **(R)** Reverse and then controls the vehicle speed with the accelerator pedal and the brake pedal.

Some high tech systems allow the driver to control this maneuver from outside the vehicle using a "smart" phone. Some systems may also control parking in a perpendicular space.

PARKING RESPONSIBILITY

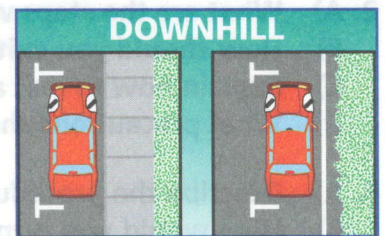
You must decide where to park in compliance with parking control signs, curb markings, fire hydrants, etc. When parking parallel to the curb, your vehicle must be within 12 inches of the nearest curb (review rules in Chapter 4-C).

PARKING ON A HILL

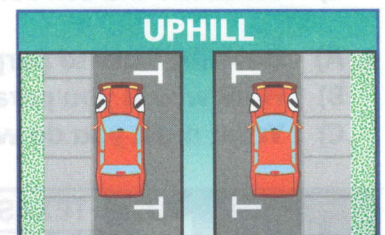
Parking your vehicle on a hill has already been explained in each of the parking maneuvers. However, the final position of your vehicle before exiting requires some explanation.

The front tires must be turned in such a manner as to cause the vehicle to roll out of traffic or resting against the curb should the vehicle try to move (parking brake/transmission lock slips).

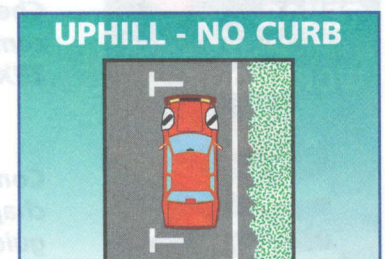
When parking downhill, whether or not there is a curb, the tires should be turned toward the near side of the road.



When parking uphill with a curb, the tires should be turned away from the near side of the road (resting against the curb).



When parking uphill without a curb, the tires should be turned toward the near side of the road.





DRIVING PLAN

The student formulates a Driving Plan incorporating the knowledge and skills of Module Three (Vehicle Movements) to endorse, to promote and to sustain lifelong legal and responsible reduced-risk driving practices in the HTS.



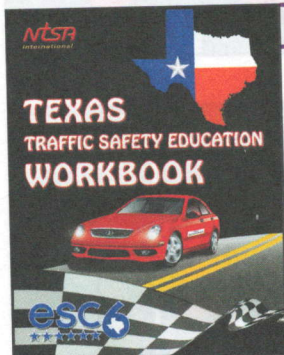
Module Three Review

VOCABULARY - WRITE A SHORT DEFINITION FOR THE FOLLOWING :

- Focal or foveal vision
- Fringe vision
- SIPDE system
- Space areas
- Minimize
- Separate
- Compromise
- Danger zone
- Following interval
- Evaluate
- Prepare
- Execute
- Gap in traffic
- Path of travel
- Rollback
- Following distance
- Time interval
- Stopped distance
- Exiting the vehicle
- Backing position
- Backup Lights

TEST A- ANSWER THE FOLLOWING QUESTIONS.

1. A) Explain the three visual functions and how they relate to driving.
 B) Describe the SIPDE System and how to apply it.
 C) What is meant by "space areas?"
 D) How would you decide which is the proper time interval while driving?
2. A) What are the steps when you intend to enter traffic?
 B) How should you exit traffic?
 C) Explain how to exit and secure your vehicle when parking.
 D) What precautions should you take when you intend to back your vehicle?
3. A) Describe the procedures to change lanes safely.
 B) How would you turnabout using a driveway on your right?
 C) What are the correct procedures for performing a 3-point turn?
4. A) Describe how to perpendicular park safely.
 B) How would you parallel park?
 C) What must you do when you park on a hill?



TEXAS TSE STUDENT WORKBOOK

Check your comprehension and mastery of the contents of this Module by completing the corresponding exercises that are found in the complement to the **TEXAS TSE STUDENT MANUAL:**

TEXAS TSE STUDENT WORKBOOK

Complete the assigned questions in the workbook. If necessary, review the chapters when uncertain of an answer and refer to your instructor for further guidance.