

Guide 5 Preparation: Reference Point Discoveries

The photo to the right shows an outside view of a car parked 6 inches away from a curb. When the hood of a car slopes out of the driver's view a point on the windshield can be used, as the photo below illustrates, as a reference point. When the hood is visible, the curb would appear to be in the center of the hood.



In the photo below, the curb appears near the middle of the windshield

(arrow), at the driver's side wiper blade.



A piece of wood is used to represent a curb line of a street. The photo below shows the view that the driver would see.



When the front of the car is even with a line, the driver will see that line appear near the passenger's side mirror, as illustrated by the arrows.



Standard Reference Points

Standard reference points are the way most drivers will see the relationship of the vehicle to the road. When attempting to discover a reference point, first use the "standard" reference point. If the "standard" reference point is accurate for you continue to use it. If not, take note of how you see it and make that personal change.

Guide 5 Preparation: Reference Point Discoveries

Standard Side Position Reference Points



Fig. 1

Fig. 2

Fig. 3

Fig. 4

Figure 1

Where the car is:

The car is 3-6 inches away from a line to the left.

How the driver sees it:

The line appears to run into a point on the hood that is about one foot from the left edge of the car.

Common applications:

- Shows where left tires are *traveling*.
- Shows *lane position two*.
- It's the *side position* for left turns.

Figure 2

Where the car is:

The car is 3-6 inches away from a line to the right.

How the driver sees it:

The line appears to run into a point near the center of the hood.

Common applications:

- Shows where right tires are *traveling*.
- Shows *lane position three*.
- To *park* 3-6 inches away from a curb.

Figure 3

Where the car is:

The car is 3 feet away from a line to the right.

How the driver sees it:

The line appears to run through the middle of the right half of the hood.

Common applications:

- It's the *side position* for right turns.
- It's the *side position* for backing into a perpendicular or parallel parking space.
- It's *lane position three* when there is no lane line to the right edge of the road.

Figure 4

Where the car is:

The car is 6 feet away from a line to the right.

How the driver sees it:

The line appears to run through the right headlight.

Common applications:

- It's the *side position* for turning right into a driveway or narrow alley.
- It's the minimum *side position* for pulling forward into an angled or perpendicular parking space.

Standard Forward Position Reference Points



Figure 5
Where the car is:
 The car is a few feet beyond the curb line.
How the driver sees it:
 The driver can see the target area without his vision cutting across the curb line.
Common applications:

- It's the *forward position*, for making a left turn, at which the steering wheel should begin to be turned.

Figure 6
Where the car is:
 The front bumper is even with the curb line.
How the driver sees it:
 The curb line appears near the passenger's side mirror — even with the dashboard.
Common applications:

- To tell where the front bumper of the car is positioned relative to the environment.
- It's the *forward position*, for making a right turn; the point at which turning should begin.
- It's the *safety stop* position, if necessary, to get a clear view before entering the intersection.

Standard Rear Position Reference Points

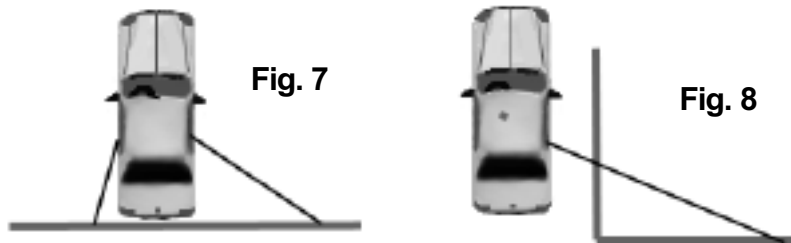


Figure 7
Where the car is:
 Rear bumper is 3-6 inches away from a line.
How the driver sees it:
 When the driver turns her head over her left shoulder, she will see the line appear near the middle of the rear left-side window.
Common applications:

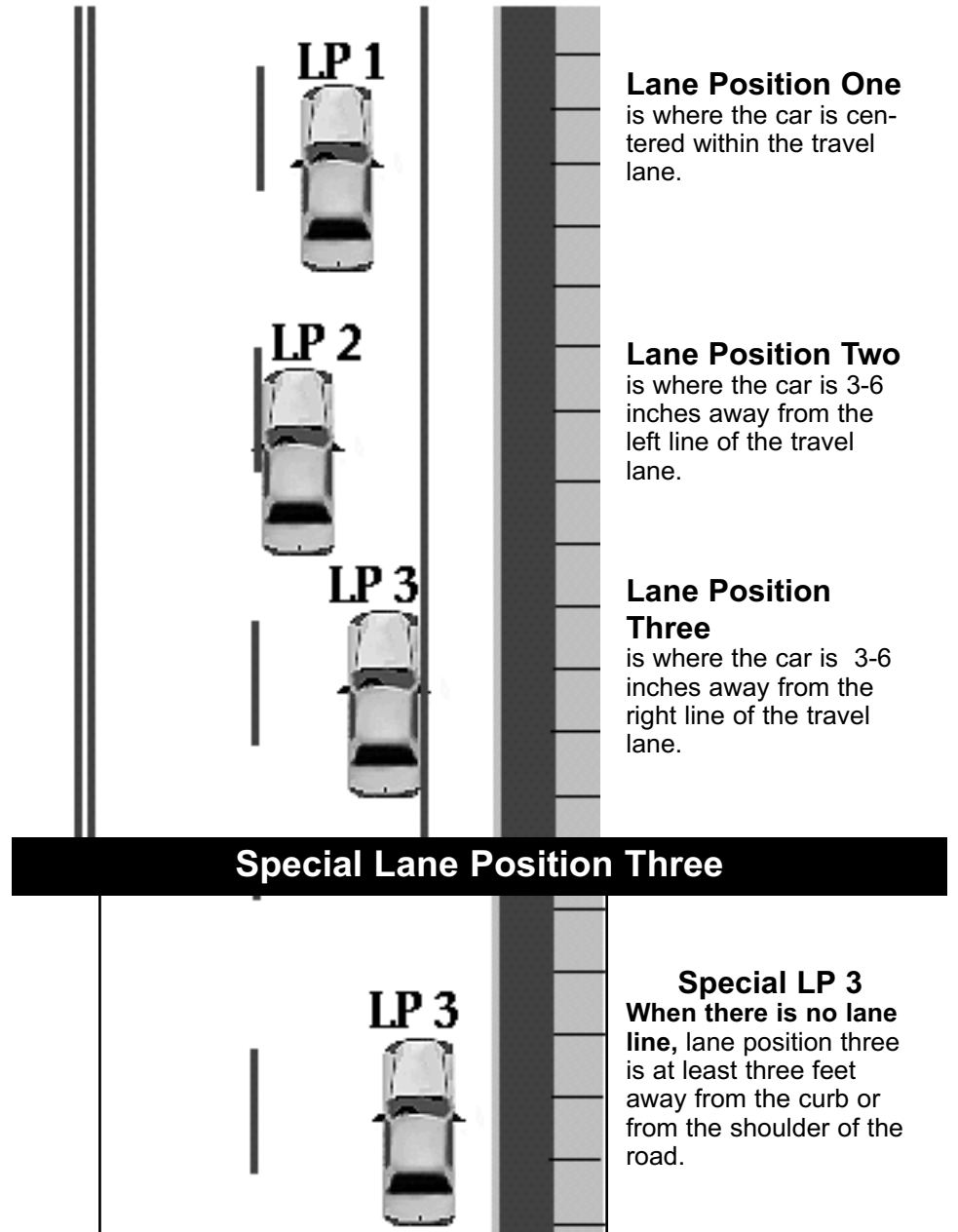
- To see the rear bumper's position.
- When backing into a perpendicular parking space, the driver can accurately judge where the bumper is to the rear line.

Figure 8
Where the car is:
 The rear bumper is 3 feet away from a line.
How the driver sees it:
 When the driver turns his head over his right shoulder, he will see the line disappear in the rear window corner post.
Common applications:

- This is the *pivot point*; the precise point at which to begin turning the steering wheel when backing around a corner.

Lane Position Options

There are five choices for lane position without making a lane change. The diagram shows the three most frequently used lane positions. Most cars are less than six feet wide; the highway lanes are commonly 12 feet wide; that gives you six feet of empty space to the side without leaving the lane. There is enough room in most lanes to fit two cars.



Lane Position One
 is where the car is centered within the travel lane.

Lane Position Two
 is where the car is 3-6 inches away from the left line of the travel lane.

Lane Position Three
 is where the car is 3-6 inches away from the right line of the travel lane.

Special Lane Position Three

Special LP 3
When there is no lane line, lane position three is at least three feet away from the curb or from the shoulder of the road.

Guide 5: Reference Point Discoveries

Line-Of-Vision Blind Area

With the vehicle stopped and secured, place an object on the ground approximately 12-15 feet in front of the front bumper. Get into the driver's seat and notice if you can see the object at ground level. If not, reposition it to where the part touching the ground is visible to you from the driver's seat. All the space from the front bumper of the car to the box is your line-of-vision blind area.

Right Side Limitation

Park 3-6 inches away from a curb, or a line, that is located to the right of the vehicle. Use the hood ornament, or the center of the hood, or some part on the windshield, as a reference. See the outside and inside views.

Left Side Limitation

Park 3-6 inches away from a line that is located to the left of the vehicle. The line should appear approximately one foot in from the edge of the left fender. See the outside and inside views.

Front Even With Curb line

Stop the front bumper of the vehicle 3-6 inches away from a curb line. The curb line will appear to run under the outside mirror on the passenger's side and even with the dashboard. See the outside and inside views.

Rear Even With Line

Have the back of the vehicle 3-6 inches away from a line. For cars, look over your left shoulder to see the line in the middle of the left rear window. For truck types, use convex mirrors and notice how the line is seen to the rear of the tire, usually about halfway up.

Lane Position #2, 3, 1

Lane Position 2 (LP2): The car is 3-6 inches away from the left lane line — same view as *left side limitation*.

Lane Position 3 (LP3): The car is 3-6 inches away from the right lane line — same view as *right side limitation*.

Lane Position 1 (LP1): Once LP2 and LP3 are seen, and learned, it becomes easier to accurately judge LP1. The left and the right side reference points will be equally away from their lines.

Right Turn References

Reference points give you a predetermined starting point for making precision turns.

• Side Position

The side position should be 3 feet away. The curb will appear in the middle of the right half of the vehicle.

• Forward Position

The forward position will be when the front bumper is even with the curb line. Steering should begin at the forward reference.

Left Turn References

• Side Position

The side position for a left turn is the same as #3 above --- the left side limitation.

• Forward Position

The forward position, where steering should begin, is when you are able to see to your target without your line-of-vision cutting across the curb line.

Guide 6A: Entering & Crossing Traffic

Select Gap From Curbside

1. Evaluate Path to Enter

Search to the target area to see if the path you intend to enter will be open. Know if your path of travel is available but also to determine how much acceleration should take place.

2. Mirrors - Blind Spot Check

Search the inside mirror and the outside mirror on the side that you will be entering; then make a head movement check (*more info on page 54*), or use a convex mirror before moving.

3. Locate Gap or Hole to Enter

When you do see cars that are preventing you from entering the traffic flow, look beyond the vehicles you are waiting for to locate a suitable gap. A gap is the space between vehicles within a traffic cluster. The hole is the space between traffic clusters. The hole in traffic is much larger than a gap, and contains less risk.

4. Use Of Signals

Signal at least 5 seconds before entering. Be aware of situations when you should wait before putting your signal light on.

While Entering Traffic Flow

1. Avoid Hesitation

Once you're certain of a safe gap or hole, go for it.

2. Look to Target Area

Look to your target area to focus concentration on the path you will enter.

3. Side Position Reference Point

Select the proper and legal lane to enter; Then, enter into lane position two if entering from the right side to left. This will leave an escape path for other traffic.

4. Steering Technique

Use Hand-to-hand steering. Move the steering wheel as little as possible.

5. Speed Control

Accelerate smoothly with a steady increase in pedal pressure until operating at proper speed.

After Entering

1. Cancel Signal

You may not have turned the wheel enough to allow the signal to cancel automatically. If so, turn it off manually.

2 Accurate Tracking Path

Make the car go where you want it to go.

3. Re-evaluate Rear Zone

Get a rear zone update for the new traffic flow you just entered.

4. Look For New LOS-POTs

Evaluate your new target area and the targeting path you will occupy.

Crossing Traffic Flow

Use these behaviors when you need to cross a traffic flow at intersections.

1. Search Intersection Left, Front, Right

When you are stopped before entering an intersection, such as when you have a stop sign, search at a 90 degree angle to the left and right as well as checking the front zone. See deep into the intersection for approaching traffic. Seeing deep into the intersection is to look as far down the road to the left and right to where your target area would be if you were to make a left or right turn.

2. Front Bumper Even With Curb

To effectively search at a 90 degree angle, your vehicle should be stopped with the front bumper even with the curb line. From this position you are able to best see deep into the intersection.

3. Locate Gap or Hole to Enter

When you do see cars that are preventing you from entering the traffic flow, look beyond the vehicles you are waiting for to locate a suitable gap or hole to enter. This will put you in a ready position to take the best advantage of the opening.

4. Entering the Gap or Hole

When you have an open front, left and right zone accelerate smoothly without hesitation.

Guide 6B: Precision Turns

Before Turning

1. Use Of Signals

Signal at least 5 seconds before making the turn. Be aware of situations when others may enter your path before you turn.

2. Mirrors - Blind Spot Check

Search the inside mirror before making a braking action. Make an over-the-shoulder check, or use a convex mirror mounted on the outside mirror, before turning or before moving to a new side position.

3. Side Position - Reference Pt.

Select the proper and legal lane to begin your turn. Then, use the reference point to get 3-6 inches from center of the road for left turns, and 3 feet from the curb for right turns.

4. Speed Control - Apply Brake

For turns from a stopped position, begin to take a braking action that is going to result in a complete and smooth stop. For moving turns, the brake is applied to reduce speed, and the foot will remain on the brake pedal until at the transition peg, or half way into the turn.

5. Smooth Legal Stop

The legal stop, in obedience to a stop sign, is to come to a complete stop before going past the stop line. To make a smooth stop, release a slight amount of braking pressure during the last two seconds before stopping.

6. Forward Position-Ref. Point

•The forward position for a left turn is where the driver is able to see to the target area without his vision cutting across the curb line.

•For a right turn, the forward position is where the front of the car is even with the curb line of the street to be entered. Be able to explain the reference points.

7. Select Target

Before turning, pick a target that will be in the center of your travel path.

8. Search Intersection L-F-R

Search the left, the front and the right zones to see if each will be open, before entering the intersection. When it is not immediately open, identify when there will be a safe gap or hole to enter.

9. Select Gap/ Get Commitment

Be certain how you are reading others' actions.

During Turn

1. Avoid Hesitation

Once you're certain of a safe gap or hole, go for it.

2. Look Into Turns, Targeting

Turn your head to see your target before you turn the steering wheel.

3. Speed Control (Brake or Gas)

When turning from a stopped position, begin to accelerate at the same moment when steering begins. For moving turns — when leaving traffic flows — control speed by keeping the foot on the brake to maintain the pitch force on the front tires until at the transition peg; then acceleration takes place.

4. Steering Technique/Recovery

Demonstrate hand-over-hand turning for both the turn and the recovery of the steering wheel to the straight position.

5. Accurate Tracking Path

Make the car go where you want it to go.

After Turn

1. Precision Turn Results

Did the turn end up where you planned?

2. Re-evaluate Rear Zone

Get a rear zone update for the new traffic flow you just entered.

3. Look For New LOS-POTs

Evaluate your new target area and the targeting path you will occupy.

Guide 7: Reading Instruments and Gauges

1. Fuel Gauge

Get into the habit of checking the fuel gauge after starting the engine and before moving the car. This will serve as a reminder to refuel if you do not have more than a quarter of a tank, or enough fuel to reach your destination.

2. Alternator Gauge or Light

If the light comes on, or if the gauge shows a discharge, it doesn't indicate an immediate emergency. You will be able to drive for several miles. It means the battery is being drained, and eventually the car will stop running. Turn off all electrical devices not needed, such as the air conditioner or the heater blower, and have a mechanic check it as soon as possible.

3. Temperature Gauge or Light

Know what the normal gauge reading is when the car is warmed up. There should be no movement of the gauge once it reaches its normal reading. If your car has a light rather than a gauge, when it comes on it indicates that the coolant in the engine is getting hotter than its normal reading. When stopped in traffic, shifting the gear selector into "N" and racing the engine slightly can help to ward off the overheating. Get the problem checked. Do not open the radiator cap. Check your car's owner's book for proper procedure.

4. Oil-Pressure Gauge or Light

This light or gauge warns you when the oil in the engine is not circulating properly. Do not ignore this warning. To do so can result in a damaged engine, costing you thousands of dollars. If the oil-pressure light comes on and the temperature gauge rises, you should find a safe place to stop, as it may indicate that the low oil circulation is heating up the engine.

5. Safety-Belt Light

This light will remind all occupants to put the safety belt on.

6. Brake-System Warning

Most of the time when this light is on it is to tell you to release the parking brake. When the parking brake is totally released and the light stays on, or the light comes on while you are driving, it means there is a malfunction in your braking system. It could be a partial or total failure, and it could be very dangerous. Test the brakes by stopping in a safe location.

7. High-Beam Indicator

Usually a small blue light illuminates, when the headlights are on, to indicate that the high beams are in use.

8. Turn-Signal Indicator

Usually one of two green lights will flash in a set cadence to indicate when a directional signal is on. If the indicator light doesn't flash, or it flashes more rapidly than normal when the directional signal is used, it indicates you have a burned-out bulb that needs replacing.

9. Speedometer

Indicates the speed your car is traveling. Check it when you see a speed limit sign, and scan all the other gauges for any abnormal conditions.

10. Tachometer

Not all cars have a tachometer. A tachometer shows the revolutions the engine is operating at.

11. Odometer

This shows the total miles the car has been driven since it was new.

12. Tripometer

This is like the odometer except it can be set to a zero reading, usually by pushing in a button or lever. It is helpful in recording the miles of a trip, or the number of miles you are traveling on each tankful of fuel.

Guide 8: Before Exiting The Car

1. How Is The Location?

Is the car parked in the best choice available to you?

2. Is It Parked Accurately?

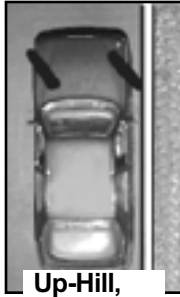
Is the car parked with precision?

3. Tires Normally Straight

If the car is parked on a hill then the tires should be turned.



Down-Hill,
with curb.



Up-Hill,
with curb.

4. Keep Foot On Brake

Keep your foot on the brake until the car is in park and the parking brake is applied.

5. Set The Parking Brake

The parking brake is the primary control for securing the car.

6. Shift To Park "P"

The park position of the transmission should be a back-up system to hold the car if the parking brake fails.

7. Foot Off Brake

The parking brake should be applied and the shift put into "P" before the foot is taken off the brake.

8. Accessories Off

To prevent unnecessary drain on the battery, turn off all accessories before turning off the engine.

9. Safety Belts Off

It should take no more than two seconds to remove the belt.

10. Windows Closed

If you have power windows, you want to close them before turning off your ignition key.



Up or Down
Hill, no curb.

The tires are a third way to help keep the car from moving after you have exited it. With no curb to catch the tires, turning the tires away from the street will help prevent the car from rolling into traffic.

11. Ignition Off - Key Removed

Turn off the ignition and remove the key. Keep the key in your hand until after you exit the car.

12. Left-Rear Zone Check

Make an over-the-shoulder check, (or if you have a convex mirror, check it) to determine if or when the door can be safely opened.

13. Open Door

Open the door as little as necessary and close it as soon as possible. This will prevent you from dinging your car or the one parked next to you when you find yourself in a tight parking space.

14. Doors Locked

Make certain you have your keys. Lock the door. Walk to the rear of the car, so that you can face traffic to detect any problems.