Lesson 3

3

OBJECTIVES for LESSON Three

- The teen will be given the opportunity to position the vehicle accurately within a travel lane and to use the concept of targeting to identify potential and/or actual problems that affect the control of the targeting path.
- The teen should be able to describe the changes to his LOS-POT while operating in various traffic situations and classify what he sees as having, or not having, an effect upon the LOS (line-of-sight) and upon the POT (path-of-travel) of the vehicle's movement.
- Have the teen see how various subtle conditions affect, or can affect, the Line-Of-Sight, and/or Path-Of-Travel the vehicle will be taking. It is important that you help the teen see the elements that create LOS-POT blockages by calling his attention to them at least 15 seconds ahead.
- Use Guide 10 to aid you in your detection of them. Little things that we normally take for granted as not being a risk can very quickly turn into a dangerous situation. Every crash that has occurred was most likely a mismanagement of an LOS-POT blockage by the driver.
- This lesson begins the use of the Zone Control System, which is a very powerful method for the teen to learn how to detect and manage driving risk. The more repetitions of finding LOS-POT blockages the teen experiences, the better the brain will develop a network of lightening-fast perceptual skills.

THE DRIVING SETTING

Begin with a simple environment and continue to increase the complexity. Use residential roadways, rural two and four lanes, and State highways (not Expressways) with two to four lanes. An off-street area should be used for Backing Introduction. For Driveway/Intersection Turnabouts use a variety of driveways and roadways as your State law permits.

Key Behavioral Pattern Applications

Tracking Into Curves

• Target on Approach to Curve
A target is seen straight ahead in the center of the path you intend the car to take.

• No Target Into Apex of Curve
You do not want to use targets as you are traveling towards the apex of the curve.

• Use Central Vision into Curve
As the car gets closer to the curve, and it is time to select a new target, look through the curve with central vision until you see another straight-away for a new target.

• Use Fringe Vision To See Reference Points
Fringe vision enables you to see reference points to determine position of the vehicle into the curve.

• Select Target After Curve
Your central vision enables you to look through the curve for problems and a new targeting path.

Searching to Target Area

See if your target area is open or closed.

Evaluating Target Path

The "targeting path" is the space you expect the vehicle will travel to arrive into the target area.

Identifying LOS's

Identify Line-Of-Sight Blockages (LOS) caused by the Environment and by other Vehicles.

Identifying POT's

Identify Path-Of-Travel Blockages (POT) caused by the Environment and by other Traffic.

Target Usage While Backing

Use a target while backing in the same manner as you do when going forward.

Vision Usage While Backing

Look over your right shoulder to see your targeting path. And, when backing a high profile vehicle, like an SUV, you need to check the inside and both outside mirrors continually as well as looking over your right shoulder. The mirrors will detect items that you may not be able to see while merely looking over your shoulder.

Steering While Backing

When backing, turn the steering wheel from the top down in the direction you want the back of the car to go. When backing and turning, use two hands on the steering wheel. When backing straight, hold the steering wheel with the left hand at the 12 position.

Reference Points for Backing

The driver, when looking over his left shoulder, will see the line appear in the middle of the rear side window.

Use of Pivot Point

To clear an object while backing and turning, use the Pivot Point, which is the corner post of the rear window. When an object is at the "pivot point" you can begin to turn and clear the object.

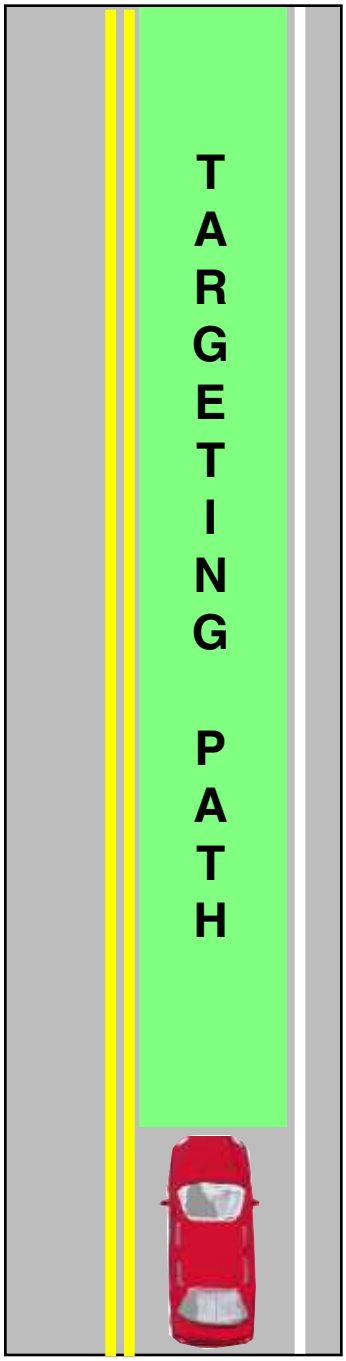
Turnabouts and Risk Assessment

Consider the choices to make a turnabout that will result in the least amount of risk.

Lesson 3: Instructor's In-Car Guides

Name _____

Rating: √ = Okay, X = More Practice Needed



NOTES

9: Tracking and Targeting Path

- 1. Selection Of Target
- 2. Aiming For Targets
- 3. Accuracy Of Tracking

Tracking Into Curves

- 1. Target On Approach
- 2. No Target Into Apex
- 3. Look Into Curve
- 4. Use Fringe For Ref. Pts.
- 5. After Curve, Target

Tracking Into Turns

- 1. Select Target Before Turn
- 2. Aim Car On Target

Searching To Target Areas

- 1. See Target Location
- 2. Evaluate Target Area
- 3. Evaluate Targeting Path
- 4. See Zone Changes

11A: Backing Introduction

- 1. Foot On Brake, Shift to "R"
- 2. Target Usage
- 3. Turn Wheel, Top Down
- 4. Look Over Right Shoulder
- 5. Use All Mirrors
- 6. Check Front Swing

Reference Point Usage

- 1. Back To A Line
- 2. Discover Pivot Point

11C: Three-Point Turnabout

- 1. Performed In Parking Lot
- 2. Used Non-Crowned Road
- 3. Used On Crowned Road

11D: Midblock U-Turn

- 1. Decision for site location
- 2. Performance of behaviors

10: Introduction to LOS-POT's

Identify LOS Caused By Environment

- 1. Curves, Hills, Intersections
- 2. Buildings, Bridges, Fences
- 3. Trees, Bushes, Signs
- 4. Weather Conds, Snow Banks

Identify LOS Caused By Vehicles

- 1. Parked Vehs, (Trucks, Buses)
- 2. Vehs Stopped, Slow Moving
- 3. Vehicles Entering Roadway

Identify POT Caused By Environment

- 1. Red Lts, Stop & Yield Signs
- 2. Intersections, Narrowing Lanes
- 3. Surface: Rough, Bumpy
- 4. Loose Gravel, Sand, Leaves
- 5. Rain, Water, Ice, Snow

Identify POT Caused By Traffic

- 1. Slow Moving, Turns, Stops
- 2. Following Less Than 4 Seconds
- 3. Pedestrians, Animals, Cars

11B:Turnabout Driveway/Intersection

- 1. Consider Your Choices
- 2. Evaluate Risk, See LOS-POTs
- 3. Select A Location
- 4. Check Rear, Tap Brake Lights
- 5. At Intersection, Right Signal
- 6. Clear Intersection
- 7. Stop 12" away from Curb
- 8. Shift To "R", Check Inters
- 9. Back to Pivot Point
- 10. Turn Wheel From Top Down
- 11. Check Front Swing Of Car
- 12. Back To Safety Stop Position
- 13. Shift To" D", Left Signal On
- 14. When Safe, Make Left Turn

Key Behavioral Patterns

- **Targeting Through Curves**
- **Searching to Target Area**
- **Evaluating Target Area**
- **Evaluating Targeting Path**
- **Identifying LOS blockages**
- **Identifying POT blockages**
- **Target usage while Backing**
- **Vision & Steering for Backing**
- **Reference Point for Backing**
- **Use of Pivot Point**

Lesson 3: Student-Centered In-Car Activities

Guide 9 Control of Tracking and Targeting Path: Ask the teen to demonstrate correct performance of all behavioral patterns. For example: Ask him to identify a target. When conditions permit, ask him to get into lane position 1, 2, or 3 to demonstrate accurate tracking. **Common Error:** He may fixate at the hood of the car (using central vision, rather than fringe vision) which will cause the vehicle to drift in an erratic manner. If so, get him to focus ahead on a target.

9: Control of Tracking and Targeting Path

Activity 1: The use of targeting is expanded beyond that of helping to steer the car. The major use of targets for this lesson is to have the student begin to acquire a habit of searching to the target area; therefore, the selection of target should be merely to identify where the target area is. Ask the teen what conditions are seen in the target area.

Activity 2: The student should be able to consistently steer the vehicle accurately during this session. If not, evaluate his eye movements by using an eye check mirror. If he is dropping his eyes, call attention to focus eyes to the target.

Activity 3: The objective is to have the student gain precision placement of the vehicle in the travel lane. When travel conditions permit, tell him to, "take lane position 2". Give positive feedback upon successful placement. Ask him what reference point was used to get into that lane position. If he is not successful with the tracking, coach him into the lane position. Repeat the process for lane position one and three. Practice each lane position several times.

Activity 4: By looking for targets, the earliest identification of an approaching curve can be made. Ask the student to tell you when a curve is identified and to state whether it is a left or right curve.

Activity 5: It is important that you monitor how the student's vision is being directed. No targets are used while steering into a curve so that the driver will always have his vision looking through the curve.

Activity 6: Have the driver look through the curve with central vision until another straight-away for a new target is seen.

Activity 7: The student's fringe vision enables him to see reference points to the center line or road edge to determine position of the vehicle into the curve.

Activity 8: For the student to achieve successful tracking into curves, the pavement marking or the road edge must be seen with the lower fringe vision while central vision is looking through the curve. When entering a curve, ask the teen to tell you when he is able to see a "new target area" that will occur after driving through the curve. This will get his eyes looking through the curve with central vision. Fringe vision will be used for positioning the car.

Activity 9: Ask the teen to tell you what the new target is without any delay as the vehicle moves through the curve. When he is able to respond successfully without delay, it is an indication that his eyes are directed in the proper place.

Activity 10: If the student has difficulty with directional control, evaluate his vision usage toward the target.

Activity 11: Make certain that the driver's head is turned toward the target before the steering wheel is turned. Often, the target cannot be seen until the car begins the turn, but the driver's head is always capable of being turned before steering takes place.

Activity 12: Ask the teen to tell you what the target location is.

Activity 13: The student should report to you whether the target area is open or closed.

Guide 10 Introduction to LOS-POT's: Have the teen identify and describe all LOS-POT conditions listed on the Guide. Ask him to explain how the LOS or POT condition can reduce the control of his driving space. Use the Guide on several different driving sessions until you are confident that the teen has a clear understanding of what constitutes an LOS and/or a POT condition.
Common Error: The student will not notice subtle LOS and POT blockages, and may identify only major changes. To increase the student's perception of LOS-POT restrictions, use this Guide to identify and cue the teen to the conditions when the LOS is restricted and when the POT is changed, or is likely to be changed.

10: Introduction to LOS-POT's

Activity 1: The student should be able to identify the LOS blockages caused by the environment that are listed in this Guide. You can have him identify an LOS and then have him tell you if it is caused by the environment or by other vehicles.

Activity 2: Have the student FIND and report one LOS blockage before the car is within 10 seconds of it.

Activity 3: You should call out LOS blockages that you FIND and report it to the student. For example: "The stopped bus ahead is an LOS blockage."

Activity 4: The student should be able to identify the POT blockages listed in this Guide that are caused by the environment or traffic. You can have him identify a POT and then have him tell you if it is caused by the environment or by traffic.

Activity 5: Have the student FIND and report one POT blockage before the car is within 10 seconds of it.

Activity 6: With Guide 10 visible to you select one section at a time, for example: Identify LOS Caused By Environment, and read to the teen those that are most likely to be found on the route you are traveling. And ask the teen to report when one is found. Repeat reading of one section at a time until the meaning of an LOS-POT becomes familiar.

Activity 7: You should call out POT blockages that you FIND and report it to the student. For example: "The red light ahead is a POT blockage." In a later lesson, after the teen has acquired the ability to FIND LOS-POTs we will ask him to Solve and Control the situation. But, for now we only take one step, and this is an important one, giving the teen the experience that many drivers never get.

Activity 8: Have the student report any LOS-POT blockage that is detected by stating where it is: left lane, right lane, or ahead. In the next lesson we will learn about "zones". The lanes will become zones. For now, stating left or right lanes will be helpful.

Student-Centered In-Car Activities: Lesson 3

Guide 11A Backing Introduction: In a parking lot, have the teen select any two distant stationary objects as targets that the car will back towards. The student will be aiming for targets, just like what was done in lesson one, except this time the car will be traveling in reverse. **Common Error:** The teen will get confused as to which way to turn the steering wheel. Emphasis on turning the wheel down from the 12 position in the direction the back of the car is to go will eliminate the confusion.

11A: Backing Introduction

Activity 1: Have the teen look over his right shoulder while his left hand is at the 12 position of the steering wheel. Back the car towards one of the targets by aiming for the target in the center of the rear window. Whichever way the car needs to move to get the target in the center of the window is the direction the steering wheel will be turned from top down.

Activity 2: Have the teen turn and back towards the other selected target. As the car is making a 180 degree movement from one target to the other, the teen will need to check the front swing of the car as well as look to the rear. Once the car gets on target and is traveling relatively straight, fine adjustments are needed to keep the target in the center of the rear window.

Activity 3: Observe that correct behavior is used as described in the steps of Guide 11A. For Reference Point Usage, ask the teen to back within 3-6 inches of a line and stop the car. The reference point should be seen in the middle of the driver's side rear window by the teen looking over his left shoulder. Get out of the car. See how the car is positioned to the line from outside as well as how the reference point appears from inside. Repeat until consistent performance is achieved.

Activity 4: Using a pavement line or an object (light pole), have the teen practice pivot point usage. Have him back the car until the object is at the pivot point, then turn. When backing and turning, once the object to be avoided (the light pole) is at the pivot point, turning can take place without fear of hitting it.

Guide 11B Driveway/Intersection Turnabout: Before the teen performs the Driveway/Intersection Turnabout on-street, practice the key steps in a parking lot. Use lines of parking spaces as curb lines. Then, **if state law permits,** use a variety of driveways as substitute streets. Have the student back into the apron of the driveway (the area between the sidewalk and the curb), by doing the least amount of backing without going beyond the sidewalk. Avoid using the same driveway twice.

11B: Driveway/Intersection Turnabout

Activity 1: Use Guide 11B and have the teen practice each of the steps for Turnabouts Driveway/Intersection. For each step, state what it is and then ask the teen to perform it. The main value of this activity is to have the teen learn the techniques more so than being able to make the turnabout.

Activity 2: While in a residential area with little or no traffic, have the student stop the car in an area where there is a driveway on each side of the road. Ask him, "which would be the best choice, to pull forward into the driveway on the left and back into the road, or to back into the driveway on the right and enter the roadway by driving forward?" The least risk is to avoid backing into the road. Therefore, backing into the driveway on the right would be the best choice. It is a better to develop the habit of driving out forward than backing out of a driveway.

Guide 11C Three-Point Turnabout: Before having the teen perform a Three-Point Turnabout on the street, practice all the key steps in a parking lot. Use lines in the parking lot as curb lines. The width of three parking spaces is approximately 30 feet wide, which is perfect for practice to take place. After the teen achieves success in a parking lot, find a residential area where there is no vehicular or pedestrian (kids) traffic. The major reason for practicing the three-point turnabout is to develop the individual behavioral patterns associated with it, not necessarily to turn the car around. **Common Error:** When practicing on a crowned road (one that is higher in the center) it becomes challenging for a beginning student to control the speed of the car as it is going upgrade to the center of the road and downgrade after the center. Be alert to how and when the teen uses the accelerator and the brake pedal to effectively control speed.

11C Three-Point Turnabout

Activity 1: Ask the student to evaluate the LOS condition at a location that may be considered for a turnabout.

Activity 2: Ask the student to consider the path of travel the car will travel if a turnabout is made.

Activity 3: Discuss with the student where would be a good place to turn around.

Activity 4: Ask the student to describe where the reference point is for being 3-6 inches away from the curb. Then ask where the reference point is for when the car is 3-feet away from the curb. Then ask where do they think the reference point should be for 18-inches from the curb. (It will be halfway between the reference point used for 3-6 inches from the curb, and the reference point for 3-feet from the curb.)

Guide 11D Midblock U-Turns: Because this is usually performed in situations where traffic could be traveling at high rates of speed, it contains the greatest risk of any turnabout. Before having the teen perform the U-Turns on street, practice all the key steps in a parking lot. ***This maneuver should not be performed on-street until after Lesson Six and adequate searching skills and use of the transition peg has been accomplished.***

Bonus Activity: Front-Cover Photo

1. Is the driver modeling correct or incorrect behavior?
2. If it is not correct, what is she doing wrong?
3. If it is correct, why is it okay behavior?

Points to consider: Whether the actions demonstrated are correct or not depends upon the task being performed. If she is in the process of backing up, as described in Activity 1 of Guide 11A, holding the left hand at the 12 position and turning her head to look over the right shoulder is correct behavior. And, if she is using hand-over-hand steering and turning her head while beginning to make a right turn it would be okay behavior. However, it is dangerous if she looks at a passenger while driving, and is holding the steering wheel in an unbalanced position as shown. The car could swerve to the right, out of control.

Help the Teen become an EXPERT Driver

Two important perceptual skills that Expert Drivers have are:

- To receive complete and accurate information within the blink of an eye.
- To act upon the information in a safe, timely, and controlled manner.

The EXPERT DRIVER habitually looks 12-15 seconds ahead of the vehicle.

The ordinary driver looks 3-5 seconds ahead of the vehicle.

To receive complete and accurate information, and to have time to act upon it, the teen needs to learn where to look (the target area) and what to look for (LOS-POT blockages).

LOS-POT Blockage

LOS is a change that creates a blockage (restriction) to our Line-Of-Sight that can conceal a vehicle, a person, or an animal that may come into our Path-Of-Travel.

POT is something that changes, or could change, the control we have over our intended Path-Of-Travel. A vehicle, stopped traffic, a red light, a stop sign, a pedestrian, or an animal could enter our path to cause a POT blockage.

"Every crash that has occurred due to driver error was most likely a mismanagement of an LOS-POT blockage."

3 Lesson

Parent-Teen Practice Guides

Student Name _____

Parent/Mentor Name _____

Rating: √ = Okay, X = More Practice Needed

			1. Target on Approach to Curves, look through the Curve
			2. Evaluate New Target Area after Curve as Open or Closed
			3. Evaluate Targeting Path you expect the car to travel
			4. Identify LOS (Line-Of-Sight) Blockage
			5. Identify POT (Path-Of-Travel) Blockage
			6. Practice Target usage while Backing
			7. Effective use of Vision and Steering while Backing
			8. Practice Reference Points for Backing
			9. Use of Pivot Point while Backing
			10. Turnabout Practice, use Guide 11B on page 15

Driving Environment: Begin with a simple environment and continue to increase the complexity. Use residential roadways, rural two and four lanes, and State Highways (not Expressways) with two to four lanes. An off-street area should be used for Backing Introduction. For Driveway/Intersection Turnabouts use a variety of driveways and roadways as your State law permits.

NOTES

1st Date _____ 2nd Date _____ 3rd Date_____

Signed _____ Signed _____ Signed_____