

*Teacher's Guide*

# **LEARNING TO DRIVE**

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Safety Enterprises, Inc.



# TEACHER GUIDE FOR LEARNING TO DRIVE

SECOND EDITION

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The ideas and materials used in this guide are based on twenty five years of teaching and supervisory experiences. Appreciation is expressed to the many colleagues for their suggestions and support.

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Second Edition Copyright © 1998.

Printed in the United States of America

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## P R E F A C E

One of our goals as teachers is to provide for our students the best instructional programs we can create with our present know how. To help achieve this goal, the HANDBOOK FOR LEARNING TO DRIVE and TEACHER GUIDE can provide teachers and students with an innovative and comprehensive laboratory program. It is a program that has been found to be

- . . more relevant in terms of the driving tasks and an analysis of man's role in the operation and control of motor vehicles;
- . . more measurable with emphasis placed on performance and observable behaviors;
- . . better structured for the effective learning of specific objectives; and
- . . better organized into a manageable form for more effective learning.

Practice driving in a real car in everyday traffic has been the unique feature of driver education from the beginning. However, such instruction can become very ineffective if it is poorly organized and allowed to become just a matter of putting in time. Realistic obstacles such as outdated materials, poorly qualified teachers, administrative expediency, and lack of financial support must be overcome before the true potential of driver education can be realized.

The lack of effective coordination between classroom and laboratory instruction continues to be a serious problem in many of the schools. In the typical program, students receive their laboratory instruction sometime after completing the classroom. As a result, textbooks are no longer available, and a student usually has a different teacher for the practice driving part. Even in the integrated programs, this is still a problem. The HANDBOOK FOR LEARNING TO DRIVE can help solve this problem because the cost is such that all students can have their own personal copy. It also provides for more effective parent participation both during and after the course.

In order for the student handbook to be implemented successfully, this comprehensive guide is provided. It describes suggested methods and approaches that many teachers have found helpful. Included are sample observation checklists that are indispensable and a final On-Road Situations test that can be correlated with collision experiences

To meet the challenge of producing safer drivers, the search for the most effective and efficient programs must continue. The author will appreciate any feedback or suggestions for improvement.

WPQ

## A BRIEF ANALYSIS OF DRIVING

The act of driving consists of controlling and guiding an automobile from one place to another along a selected pathway, with other traffic, on a complex network of highways. Safe driving consists of making proper responses, in terms of space and time, to the ever changing system situations.

### Driving Takes Place in a Complex System

Driving a motor vehicle takes place in a complex highway transportation system. A driver operates his or her automobile, with or without passengers, on a roadway that is part of an existing network of highways. This network has a multitude of origins, destinations, geometric designs, traffic controls, and facilities. Millions of other drivers, in many kinds of motorized vehicles, use the many streets and highways. People on foot or riding on bicycles also use the system. The continuous interaction of these many highway transportation elements generate a countless number of traffic situations and a variety of environments through which drivers must guide their vehicles safely and efficiently.

It is not only the variety and number of situations that drivers face, it is the changing conditions that make for complexity and hence leads to the difficulty in choosing driver responses. The degree of difficulty of the driving task is primarily in direct proportion to the complexity of the environment at a given moment. And, the more complex the traffic situations, the greater chances are for driver errors and probable conflicts.

### Drivers Use Complex Machines

The motor vehicle is a complex machine that is made up of many parts which must work together properly if the whole vehicle is to do its job of transporting people along a roadway. The problem is that each of the motor vehicle types or models has its own range of capabilities.

Drivers must learn how to control this complex machine so it will do what it is supposed to do. To do this well, drivers must have some knowledge of its capabilities and limitations. Putting a motor vehicle and driver in a situation that calls for actions that cannot be performed always leads to loss of control.

### Vehicle Control Has Basic Requirements

There are five basic requirements that are needed for safe control of the motor vehicle. It is important to consider these requirements both from the standpoint of the driver's abilities and from the standpoint of the vehicle's capabilities.

**Adequate Traction** -- Without traction, vehicle movement and control would not be possible. Traction is required for accelerating, decelerating and steering. A driver must constantly assess the traction demands of his or her vehicle. The driver must be alert always for areas of reduced traction, and be able to evaluate its effect on vehicle control.

**Adequate Space** -- The best drivers have learned how to provide for themselves an adequate space margin. Such a margin gives them plenty of time to react to the changing conditions. It gives them better visibility. As a result, they rarely need to make sudden stops or swerving actions. Space is needed for crossing and joining and any control action. Space will vary with the speed being traveled. A good understanding of space and time requirements sets the stage for selecting a safe speed.

**Adequate Time** -- The driver must assess the time needed for driver actions, maneuvers, vehicle responses, and processing information. The use of timing is extremely important for avoiding hazards. This is because time is easier and more accurate to estimate than distance.

**Adequate Visibility** -- How well a driver can guide his or her car along a pathway, depends on visibility and how well the eyes are being used. The faster the car moves, the greater sight distance that is required. Changes in visibility must be perceived and responded to.

**Path of Travel** -- This concept serves as a basic point of reference for developing processes and priorities. The path of travel is that strip of roadway wide enough and long enough to permit the forward movement of your car. It is made up of the two-second following distance, the four-second stopping distance, and the twelve second visual lead.

### **Driving Requires Perception and Evaluation**

A constant analysis and evaluation of the traffic scene is necessary in order to determine what course of action is best for the driver to follow. Once motor skills necessary for vehicle control have been acquired, then the driver's performance is based on his or her perceptions of the traffic situation. Many drivers have frequent near misses and occasional collisions due to ineffective visual perceptions.

Through visual perception, the driver learns of the presence of traffic controls, of pedestrians, of the roadway conditions, and the position of other vehicles. Drivers must observe and identify many events from all directions that are related to their vehicles' movement. Since the driver's senses usually are being exposed to more traffic stimuli than he or she can become aware of, it is necessary that one follow a process of selecting, sorting, and organizing those key events which will affect the intended path of travel.

After a problem situation is identified, a driver will need to predict what will happen. Is there a good chance for a collision? To make predictions calls for the ability to make judgments. The evaluation of complex traffic situations is one of the more difficult things a driver must learn.

### **Drivers Must Choose the Best Speed and Position**

In the present highway transportation system, the individual driver is entrusted with the responsibility for making most of his or her own traffic decisions. In metropolitan areas, it has been estimated that each driver is confronted with about one hundred decisions for each mile traveled. Of these, at least twenty decisions require some action. A few may be of an evasive nature.

The decisions that must be made are many and varied. To begin with, the driver must select a general route to follow and a time to start in order to arrive at the destination on time. All along the selected route, a driver must choose a series of specific pathways along which to drive. Then, he or she must decide when, where, what, and how much action to take. The choice of proper speed and direction is a continuous and primary task.

### **Driving Requires Skilled and Timely Responses**

Driver decisions must be converted into actions that will lead to timely and appropriate maneuvers. To make such maneuvers, a driver must turn the steering wheel, accelerate, brake, decelerate, and change gear ratios. In addition, drivers must be able to use various safety devices like the windshield wipers. And, they must be able to communicate with other users.

At times, a high degree of coordination will be required between the feet, hands, and eyes. This coordination must be developed to a point where it becomes semi-automatic. These skilled control actions may vary somewhat from one kind of motor vehicle to another.

### Driving Involves Problem Solving

Based on this brief analysis of driving, it should be obvious that the role of the driver in the highway transportation system is primarily that of processing information and making decisions. The physical skills of driving are important, but they are easily mastered by almost everyone with a minimum of training. The difficult part of driving is the mental ability involved in decision making.

Competent drivers do not just guide motor vehicles; they are involved in a complex and constant process of perceiving and deciding how best to control the speed and the position of the automobile in situation after situation. Many of these situations become real problems to solve. So, the safe driver must learn to solve traffic problems.

## GUIDELINES FOR PLANNING INSTRUCTION

Driving instructors need to make important decisions in planning and conducting an in-car program. For each lesson, they must select the objectives, the content, and the order in which the content is to be taught. Also to be selected are the methods suitable for the objectives and individual student characteristics. The quality of these and other related decisions will help determine the effectiveness of the program.

The overall plan should assure that the students' learning is logical and progressive. It should require that students come to practice sessions well prepared and motivated. The purpose of this guide is to assist with such planning.

### Student Preparation for Practice

A big problem facing all in-car instructors is the lack of adequate time. The minimum time standard of six hours for BTW instruction set in 1948 was inadequate then, and it is inadequate now. But, with rising costs and declining support, most private and public schools continue to be restricted to this minimum. Therefore, it is imperative that in-car time be utilized wisely and efficiently.

The HANDBOOK FOR LEARNING TO DRIVE has been designed to bridge the gap between classroom and laboratory instruction. Students can acquire all the basic information needed by independent study from this Handbook. Then, the sessions in the car can be best utilized for applying and demonstrating competencies.

The interest of students in driving will be applied to independent study only if teachers require it and attach importance to it. When teachers permit students to participate in the laboratory sessions without adequate preparation, unnecessary information provided in-car will take up valuable practice driving time. Once this happens, the incentive for independent study will be lost.

With such a comprehensive manual, specific content can be assigned to meet the individual needs. This allows for better self-pacing and progress. Immediately after each practice session, the various aspects of the performance should be discussed and recorded. Any problems should be considered in case there is a need for remedial training. Then, the assignment for the next lesson can be provided in an explicit and attractive manner. This will stimulate the student's eagerness to continue making progress and learn new skills.



## Structure and Sequence of Lessons

The student manual is designed to provide both the teacher and students with a structured sequence of learning events which will enable students to progress step-by-step to desired performances. The sequence of lessons can be modified and adapted to any school program from the regular group-paced practice sessions to a highly individualized system which allows students to progress at their own rate.

Each lesson in the manual follows the why, what, and how format. To begin, a brief rationale communicates the importance of the lesson. Specific objectives and learning activities are provided in the Teacher's Guide. This allows the teacher to select and communicate what is to be accomplished at the beginning of each practice session. Most lessons will take more than one practice session.

Lesson objectives tell the students exactly what performance they are to demonstrate and under what conditions. They are relevant in terms of driving task studies. A variety of learning activities are suggested to assist the student to attain the session objective.

After the basic maneuvers are mastered, the structure and content is oriented toward the kinds of traffic situations to be encountered rather than the types of environments such as city, highway, and expressway. The continuous interaction of the many highway system elements generates a countless number of traffic situations. Therefore, the focus of learning to drive safely is on "how to respond to situations."

The various driving situations have been classified into manageable categories which provide for a broader type of learning experiences. This makes for a better chance for the transfer of training to take place during and after the course. The kinds of environments are introduced and experienced regularly through carefully selected practice driving routes and activities.

As has been indicated in the driving analysis, there are four basic concepts or requirements that are related to safe driving. These concepts of traction, space, time, and visibility are introduced early in the course. Then, they are applied and reinforced all during the laboratory experiences. It is important to apply these concepts to both the vehicle and the driver. In this sense, driving can be thought of as matching one's own capabilities with those of the vehicle.

The path of travel concept is a most important one that is utilized throughout the course. This concept serves as a basic point of reference for developing and setting priorities for the mental processes. Once teachers start using the definable travel path, they can then establish activities and guides that are more measurable.

The IPDE process, or human functions approach to driving, is not structured in an integrated way in the manual as is done in most current texts and films. Rather, the part-whole method is used for such a complex process. It is better psychologically to learn what is involved in each separate mental ability before proceeding to apply the whole process to given situations. Students must first be able to perceive and identify in an effective manner before they attempt to evaluate situations for a proper response. The final product, of course, is an integrated and efficient process that is modified to become each individual's own personalized system for deciding and responding to the variety of driving situations to be encountered. Then too, this kind of approach provides evaluation methods that promote the continued improvement of such abilities.

One reason formal education and training has value is because learners can be taught behaviors to a higher level of achievement within a particular structure than without it. This means that driver instructors should be able to teach superior perceptual skills than could be acquired through unstructured driving experiences with

parents or friends. The challenge to driver instructors is to provide for an effective and more efficient sequence of learning experiences that could be the equivalent of one or two year's driving experiences picked up on a hit or miss basis.

### Principles for Scheduling

The most effective laboratory programs of instruction are organized and scheduled in accordance with accepted psychological principles of learning rather than administrative expediency. The length of practice periods and the span of time over which lessons are conducted are important factors to consider when making up schedules.

The time span for structuring the practice periods does influence the effectiveness of learning experiences. Studies show that shorter and more frequent lessons distributed over a period of time are more effective than a few lengthy lessons given over a shorter period of time. It is also known that spaced recalls are more advantageous in fixing materials which are to be long retained. Therefore, the minimum six hours of practice driving lessons in the dual-control automobile should be scheduled over a span of time not less than five weeks. Six to eight weeks probably would be a more optimum time span for the modification of behavior and the more effective involvement of parents or relatives.

The length of practice periods is also known to influence the effectiveness of learning. Initial trials and continued practice are usually very exhausting for beginners. Lengthy practice sessions often use up much nervous energy and creates anxiety which results in little learning taking place after about thirty minutes BTW. Therefore, the length of practice periods should be no more than ninety minutes when three students are assigned to the dual-control automobile.

### Effective Use of Observation Time

One of the big weaknesses of laboratory instruction over the years has been the lack of imaginative and effective backseat activities for students. Many teachers have resisted using checklists because they think it detracts from their supervision of the driver. But, most checklists in this guide are designed for use by students, not the teacher. They may or may not be part of the grading process.

Since driver instruction is so limited by time, it seems imperative that student observers be actively involved each session in the car. Checklists and other activities give the observer something concrete to do that is meaningful and motivating. They help the students apply knowledge gained by independent study. They also provide the teacher with a more objective diagnostic tool and guide for remedial instruction.

Types of backseat activities should include: (1) assisting the driver with procedures and responses, (2) interacting with the instructor and other backseat observers, (3) practicing visual skills and mental processing habits, (4) commentary driving, and (5) assisting with record keeping. Examples of checklists are provided. They may require experimentation and some modification to meet local needs. Long term values will more than compensate for the extra effort needed.

### Conditions for Transfer of Training

Teenagers learn from example and what they practice. There is no substitute for repetitious practice when developing performance competencies. But, practice does not lead to expertise unless it is guided properly. One can practice and make no progress, or one can end up with an awkward or undesirable response pattern. Practice only provides an opportunity for learning. Whether that opportunity is used effectively or not depends on how well the teacher has prepared ahead of time. The right amount of coaching and supervision should accompany the practice.

Effective supervision is required so that there can be a knowledge of results. Obviously, if correct skills and habits are to be established, learners must know which steps and skills are correct and which are incorrect. The correct behavior must be noted and praised; incorrect behavior must be indicated and remedies proposed. The students should know how well they did as soon as practical.

Carrying over learning from one task to another is known as transfer of training. If the old learning helps on the new task, transfer is said to be positive; if it hinders, then transfer is negative. Transfer of training from one situation to another is about proportional to the degree to which the situations are similar in structure or meaning. But, these likenesses must be perceived as such.

There must be teaching for transfer. Motor skills and mental skills can be learned as isolated acts, and then brought to a fair level of skills. Then, when an individual tries to use them in a different situation without any guided practice in making such a transfer, the skills often can degenerate seriously. All persons need to know how to transfer knowledge and skills to new situations.

Transfer to new or similar tasks take place, if in the learning, the students are guided to discover relationships. It is important that students are provided with experiences in applying the principles to be learned in a variety of tasks or situations. The results of studies indicate the following:

1. The similarity of one learning situation to another results in positive transfer of training.
2. The amount of transfer depends on the degree of learning of the initial task.
3. Increased practice on one task shows an initial increase in positive transfer to a new task.
4. Principles and concepts, rather than facts, may facilitate transfer.

At the present time, very little time is being given to teaching mental processes in the car. The training that is being conducted in the classroom will not automatically transfer to the car. Teachers must plan for more appropriate activities and routes. Routes need to have space, traction, and visibility problems included and programmed for evaluation purposes. Teachers should make an analysis of the many local situations that provide for representative hazard and conflict problems. They must set up general patterns for practice so that not only transfer of training can take place between class and in-car learning, but that transfer to similar situations can take place after course completion.

### Conditions for Changing Behavior

The main task of a driving instructor, both in the classroom and laboratory, is to provide conditions under which habits, skills, and behavioral patterns can be developed and reinforced. Feeling and values develop while habits and skills are forming or are changing. Therefore, learning activities should be interesting, positive, and provide a good chance for some degree of success.

Successful teachers show that they care about their subject. They are well prepared for each lesson and enthusiastic. Students can sense quickly time wasting and inefficient teaching methods. If a person doesn't have a good time teaching, chances are his or her students won't enjoy learning.

A definite pattern of instruction should be established and followed for each lesson. Most students will adapt themselves more readily to such a routine. A well conceived plan not only helps motivate learning, but it improves the students' attitude toward the course and driving in general.

Teachers can help students get ready to learn by stimulating their interest and focusing their attention. The best way to do this is by stating the objective and explaining how it can be achieved. This puts the learners more at ease and better motivated since they know exactly what they will be doing. It also helps the teacher stay on track and follow the proper sequences.

After a brief preview, it usually is best to review the last lesson. This helps put the student at ease BTW before starting on something new. Then, the learning can proceed in a step-by-step fashion, which can lead better to success. Nothing motivates like success, and nothing inhibits like failure.

Motivation is a factor in all learning. It is action directed toward objectives to satisfy needs. Teachers cannot motivate students directly, but they can create the conditions in which students will motivate themselves. Most young people are highly motivated to obtain a license to drive. The teacher's challenge is to upgrade these motivations to drive safely. The key is to promote intrinsic motivation which is much better than external prodding. Even though external motivation may produce the desired behavior, there is no assurance that the desired learning has taken place for good. The student merely may have learned to "act" in class the way expected.

Good teachers care about their students. They know more about students than their names. They talk up to students, not down to them. They listen to students and help build self images. When teachers are perceived to be honest and fair, hard work and discipline are more apt to result.

Teachers need to focus more on principles and concepts along with procedures and skills. If the training program emphasizes processes and the "learning to learn" approach, then improvement and maintenance of safe behavior can be more easily achieved. Such approaches are more likely to promote intrinsic motivation and the acceptance of driver responsibility for the future.

### Public Relations and Information

Teaching in the driver education car and public relations are intertwined. Actually, There is no choice whether one decides to use public relations. The choice is between bad or good public relations. It should be realized that continued support for high school driver education depends to a great extent on how well the program is regularly interpreted to parents and the public.

The dual-brake training car should be considered as a classroom on wheels. So, a teacher's conduct, dress, and personal habits should follow the same standards as for a regular classroom. When well planned lessons and proper teacher-student relationships exist, positive public relations becomes automatic. Poor lesson planning, running errands, and sloppy personal habits will produce negative public relations.

The following suggestions should help develop and maintain the kind of public relations that will pay off.

1. Cooperate and interact with other faculty members and administrators. There is a need for periodic exchanges of information so that teachers understand each other's program. Be prompt with all administrative reports and duties. Know and follow proper channels and policies.
2. The attitude of the public toward the program can be influenced by the selection of streets for practice driving. Special care should be taken so that the streets selected are commensurate with the learner's ability. The normal flow of traffic should not be hindered nor should the safety of other users be questioned by observers.

3. A good working relationship should be established and maintained with police, traffic engineers, judges, driver license examiners, and other public safety officials. Then, the school program can be better coordinated with the community public safety effort. Public officials can provide technical assistance or advice and much needed support.
4. A personal relationship should be cultivated with automobile dealers in the community. Appropriate recognition should be given those dealers who provide cars for laboratory instruction. The dual-control cars should be kept clean, well maintained, and used only for the purpose of instruction.
5. Cooperate with the mass media. Supply background materials about traffic safety in general and specific local projects.
6. Talks before civic, service, or religious clubs can be a good means of publicizing the true nature of a program. Support from these organizations is important.

### SELECTION OF PRACTICE DRIVING ROUTES

A most important factor for effective BTW instruction is the selection of appropriate practice driving routes. Each route selected must make it possible for students to practice those performances required by the lesson objective. Special care must be taken so that the area selected is commensurate with the students' ability. The normal flow of traffic should not be impeded. The safety of students and other users must be a top priority.

#### Need for Performance Objectives

Perhaps the most critical prerequisite for the proper selection of BTW routes is the specification of what is to be learned in the car for each lesson. Objectives must identify specific performances and the conditions under which they are demonstrated. Included are the proficiency levels to be attained.

Maneuvers, highway driving, city driving, freeway driving, visual habits, and defensive driving are too general and should be considered unacceptable. The need is to focus on human performances required rather than on environmental settings and maneuvers. Unfortunately, some of these general terms are being identified as competencies to be learned. This defeats the purpose of competency based instruction.

In the traditional driver education programs, most of the BTW time is spent on becoming proficient in the control skills and maneuvers. The objectives have been related more to "how to maneuver" rather than "how to respond to situations." The challenge is to provide more effective instruction that develops a student's problem solving skills. So, there should be more specific objectives that focus on the mental skills required of drivers. These are the ones that lead to safe driving.

If students are to identify roadway hazards or conditions, then the kinds of conditions should be identified. For example: "Students can identify, ten seconds ahead, those areas of reduced traction, areas of reduced visibility, and those areas of reduced space to sides. For such an objective, the BTW route would need such roadway conditions present. If students are to select the best path, the best space margins, and the proper gaps in traffic, then BTW routes must include such situations for practice.

#### Types of Performances

Once a set of comprehensive set of specific performance objectives are written, there is a need to classify the kinds of performances involved for each objective. This is because different procedures and methods are more appropriate for each type of

performance. Four main types of performances are classified as: (1) manipulation, (2) recall, (3) discrimination, and (4) problem solving.

All BTW lessons will include manipulation and recall. It is important that the various kinds of manipulation or motor skills are identified. Then, students can be provided the opportunity to practice each skill under realistic conditions. Recall involves knowing what to do and why to do it. Knowing when or what order to do things is a special kind of recall called chaining. Starting and stopping procedures are good examples of chaining.

Being able to tell the difference between two or more things is called discrimination. Involved is the process of perception. Noting the differences in shapes and colors of signs is discriminating. Discrimination is involved in being able to tell whether an engine is running at normal idle or fast idle. When a student is able to distinguish between roadway conditions, to tell when a lane change needs to be done, or to see the difference between a correct and incorrect procedure, the principle type of performance called for is discrimination.

When students must figure out the best way of doing something or to decide what to do next, they are involved in problem solving. Choosing the best speed and path to take for a given situation is the type of traffic problem drivers are faced with regularly. Problem solving is taught by providing students with principles and strategies needed to make proper responses to traffic situations. They need to have an opportunity to solve as many problems as possible.

#### Location of Areas and Routes

All teachers must be very familiar with all areas of the community. It is best to start with a map of the community or region. If one is not available, a rough drawing should be made up. Then, a careful analysis should be made to determine the kind of road and traffic conditions that are available. Included is a knowledge of traffic conditions that exist during various times of the day.

The routes can be set up like a hub and spokes of a wheel. The hub is the central area where the lesson may begin and the training car is brought back to for a change of drivers. Each spoke can consist of a mini-route which provides for slightly different situations. Then, a teacher can choose the mini-route that fits each student's stage of development. The amount of time needed for each route can be determined when the areas are being selected. Of course, flexibility needs to be built in.

Alternate areas and routes need to be established when two or more teachers will be assigned the same practice periods. When students are picked up at their homes, appropriate routes need to be selected nearby when practical.

#### Programming the Routes

Routes will need to be programmed for at least three types of activities. The beginning of the route needs to be considered as an area for making demonstrations. Next, there should be areas where an adequate amount of repetitious practice can take place. Finally, areas should be designated for evaluation purposes. Of course, these areas or routes can overlap.

Checkpoints can be identified along certain segments of the route. Two or more teachers can drive the route to determine the best places to locate such checkpoints. Then, a checklist can be developed for both practice and evaluation purposes.

## TEACHING METHODS FOR BTW

Teaching some students to drive safely can be a trying and difficult task. If the BTW teachers are to be successful, they must use a wide variety of skills. These are instructional, diagnostic, and psychological. The environment, on-the-street, is changing constantly and is somewhat uncontrollable. The learner is usually a young and emotional person of 15-16 years of age. The combination of these factors can put a teacher in a rather difficult and demanding situation.

The following guidelines and techniques are provided to help teachers cope.

### General Principles for Learning

#### INSTRUCTION SHOULD PROGRESS FROM SIMPLE TO COMPLEX ACTIVITIES.

Learning is most easily accomplished when fear is not present. Driving is an activity which does create fear for many beginning drivers. So, the early lessons need to take place in environments which have relatively little traffic. They should allow students to build up confidence from the start. As the student develops mastery in handling a car, the environments can then become increasingly complex. The lessons should begin with a focus on the basic skills and progress through a blending of these skills with perceptual skills to a focus on the development of decision-making skills.

#### PRACTICE OF ALL SKILLS SHOULD FOLLOW A SCHEDULE.

Psychological studies have shown that behavior is learned and retained best when certain patterns of experience are followed. When learning a new task, it is best to practice it in a concentrated form, which means many repetitions in a short period of time. This concentration should usually continue until the task has been mastered. Then, over a period of time, the task must be performed periodically to keep the skill level from deteriorating. For example, when learning to turn corners, the route should be structured so a large number of turns are made in a short period of time. After the student can turn reasonably well, the lessons should focus on something else, but periodically the student's turns need to be checked out for continued mastery.

#### STUDENTS LEARN BEST THAT WHICH IS MEANINGFUL TO THEM.

Repeating meaningless work or actions is not likely to suddenly make it meaningful. The remedy, when students don't understand, should not be more of the same or to work harder. It is important that students know why as well as how to perform the procedures or skills.

#### A COMBINATION OF THE PART AND WHOLE METHODS IS MOST EFFECTIVE.

In simple tasks, it is best to practice the whole method. But, in the case of complex or difficult skills, evidence indicates that some practice on the parts is more efficient to begin with. As each step is practiced and mastered, new steps can be added, and the whole process is then integrated for practice. Some sub-skills may need special or more practice than others. It would be a waste of time to practice the easy steps as often as the hard ones.

#### ALLOW STUDENTS TO LEARN FROM MISTAKES.

During the learning process, mistakes will invariably occur. Some of these mistakes could lead to rather tragic consequences, but most are quite harmless. For example, a student may approach a corner too fast. If no other traffic is around, the teacher might let the student turn knowing that the car will swing too wide. If there is a

traffic law being violated or the situation is hazardous, then the teacher must take preventive actions. But, if the mistake can be allowed without undue risk, then the student should be allowed to learn from the mistake.

#### STUDENTS SHOULD NOT BE ALLOWED TO GET INTO AN EMERGENCY.

Many situations which will be faced on the street will be potentially dangerous. However, the teacher should never allow the student to drive into a dangerous situation so far that an evasive maneuver would be required. Prior to involvement in such a situation, the teacher should identify these events in advance. He or she should then take the appropriate actions to prevent such a situation from developing.

#### Demonstrations and Explanations

In order to acquire a motor skill efficiently, a correct start is of great importance. For a good start, one must be taught what movements are necessary and sequence in which they should be made. This calls for proper descriptions and demonstrations with explanations. A good demonstration in what to do and how to do it saves time and effort. It is much superior to trial and error learning.

A teacher should demonstrate skillfully in as realistic a situation as is practical even though the student may have to progress into such a situation on a gradual basis. The demonstration should be given slow enough for each step to be observed and understood. Some explanation should accompany the demonstration.

Part or all of the explanations should usually take place during the actual demonstration. Strike a medium between too much explanation and too little. A common mistake is to cover too many details in a single explanation, to give too many directions all at once, or to demonstrate more than a beginner can assimilate. The average beginner will not be able to remember more than four or five items of instruction at a time.

In general, verbal descriptions have little value to beginners except for purposes of directing observations. Expressions such as, "watch how I move my hands," or "notice where I start to turn" are appropriate. But, detailed descriptions of motor skill movements are of little help because they are difficult to do well. So, learning motor skills without a good demonstration is inefficient. An exception can be made for simple skills with advanced students. Descriptions that are made should be positive. One should be told what to do rather than what not to do.

#### Directions for Student Practice

Directions are the teacher's verbal statements that tell a student what to do and where to do it. To give directions, a teacher should know the route in detail and plan ahead. Before giving directions, a teacher should "read the traffic picture," use the mirrors, and make head checks. Here are some guidelines to follow.

1. Directions should take into account the individual's capabilities and the environmental conditions. A student should never be "tested" by asking for an action that is illegal.
2. Directions should be clear, concise, and easily understood. Terminology used should be defined ahead of time.
3. Directions should be properly timed. They should be given in time for a student to become mentally and physically prepared. Repetition may be necessary.
4. Always tell **where** first. Then, tell **what** action is to be taken. In advanced lessons, teachers may prefer to give general directions and routes or streets to follow rather than specific places to turn.



5. Avoid the use of terms with a double meaning for a situation. For example, in response to a student's query for a turning situation, use the phrase, "that's correct" rather than "that's right." When making maneuvers involving backing, use the term "continue" rather than one such as "go ahead" or "go back."

### Guiding Student Learning Experiences

Once demonstrations, explanations, and directions are given, the teacher must guide student practice in ways that promotes improvement from one practice trial to the next. The following methods will help teachers guide such improvement toward the achievement of objectives.

1. A brief review of the previous lesson may be the best procedure to follow in order to set the student at ease and build confidence for a new task.
2. For each new maneuver or skill, the teacher should guide the student through two or three practice trials with step-by-step coaching. As student skill improves, the coaching should taper off.
3. Coaching BTW consists of using timely verbal cues or reminder of what actions to take during the maneuver or mental process.
4. The teacher must observe and analyze the physical actions of the students as well as the movement of the training car. Then, it is necessary to identify any error and its true cause. A teacher must decide whether the error is a lack of knowledge, a matter of timing and coordination, or just lack of patience.
5. When a lengthy explanation of a situation or performance is necessary, it may be best to stop in a safe place for a full explanation or discussion. Rather than do a lengthy verbal explanation, it may be best to give additional verbal cues as the student repeats the performance.
6. Teachers should set up special drills which focus on those actions that are causing the difficulty.

### Assumption of Car Control

When directing practice driving on-street, situations may arise which will require a teacher to take control of the movement and direction of the car. This may require quick and proper action if a collision is to be avoided. Therefore, teachers for BTW should know and use a variety of control strategies for insuring the safety of the car and its occupants. They should learn when to assume control, what assistance to give, and how to take over.

Control strategies can be used for instructional purposes as well as for taking over physical control of the training car for emergencies. The suggestions provided here are mostly for use in emergencies. But, the competent driver instructor should rarely need to take over control to avoid an emergency. When an instructor finds it necessary to use the dual-controls frequently, then it is time to check out the validity of the instructional process.

Use of controls are explained. -- It is important that students know how and when the controls are to be used. Then, they will be able better to cooperate when the time comes for their use. There also is less chance for panic. During the first lesson, the use of the dual-brake and steering assistance should be demonstrated so students will know what to expect. At the start of each succeeding lesson, the dual-brake should be checked for proper functioning.

A position of readiness is maintained. -- In general, the teacher's posture should be one of relaxed alertness--a ready for anything. He or she should be able to observe the traffic scene and at the same time note the actions of the student's feet and hands. The teacher's left hand needs to be in a position of immediate access to the lower half of the steering wheel. Whenever a situation looks at all doubtful, a foot should be covering the dual-brake. The student's ability to cope with a complex traffic situation, even toward the end of the course, should never be taken for granted.

Use left hand on steering wheel. -- When a student doesn't respond to a verbal cue for a steering error, the teacher should be ready to take partial control with the left hand, or both hands if necessary. The left hand should be placed at about the five o'clock point. Contact with the driver's hands should be avoided if practical.

Steering assistance is most likely to be needed during turning or parking maneuvers. Some students may need help also when driving close to parked vehicles or other objects on the right side.

Make proper use of the dual-brake. -- Whenever a student reacts too slowly with the brake pedal, then the teacher must be ready to assist with the dual-brake. It should be used early enough to make a smooth stop. Going into a turn too fast or going over the speed limit are situations that warrant assistance if verbal cues are insufficient. Assistance may also be needed when the training car is being maneuvered in tight situations.

Be ready to use other controls. -- In conjunction with the dual-brake, a teacher may need to put the selector lever in neutral or turn the ignition key to off. These actions may be necessary if the student freezes on the gas pedal. If the engine must be shut off, be sure to avoid turning the key to lock. Remember, when the engine is shut off, there will be a loss of power steering and power braking.

Assistance with the selector lever may be needed also in a tight situation when the wrong gear position is selected. Starting a stalled engine in traffic may call for some assistance too.

A park brake that is located in the center console may be used in an emergency when the dual-brake fails to function properly.

Avoid the overuse of controls. -- Overuse of the dual-brake is usually a sign of ineffective instruction or poor route planning. Continually assisting students does not give students a chance to perform on their own, and it can lead to resentment. If assistance is given too soon, the students are prevented from correcting their own errors. Such actions can magnify a student's errors and retard the building up of self confidence.

## EVALUATION OF STUDENT ACHIEVEMENT

Evaluation is an integral part of the instructional process. It involves making judgments and decisions. The data used may be quantitative or qualitative. Such data can be collected from tests, checklists, rating scales, and observations.

Measures of achievement provide students, parents, and administrators with information as to one's progress and successful completion. They are needed to identify strengths and weaknesses of the curriculum, and thus aid in making improvements.

Two types of formal evaluation instruments are provided. Formative evaluation consists of those measures and judgments that are provided to students during the learning process. They seek answers to the student's question, "How am I doing?" This immediate feedback can be highly motivating for further student progress. Teachers may

use them more for diagnostic purposes since they can assist both students and teachers to decide what activities should be repeated or added. Summative evaluations are those measures and judgments that are made at the end of learning experiences. They seek to determine if students have achieved the lesson and course objectives and to what level of proficiency. Hopefully, they can help measure course effectiveness.

### Verbal Evaluations of Performance

For effective and efficient learning to take place, there must be a knowledge of results or feedback. Students need to know what steps and skills are correct and which are incorrect. They should get this feedback as soon as practical. Here are some verbal methods to use.

1. Criticism and evaluation of student performance should be friendly and constructive. If adverse criticism is preceded by commendations, it will be easier to take and more likely to stimulate improvement.
2. After a few practice trials, a student should have an opportunity to practice without help. The true appraisal of achievement is not possible if coaching is not withdrawn entirely.
3. As a general rule, feedback by the teacher should be precise and immediate. Of course, there are traffic situations when the feedback should be delayed to allow a driver to concentrate on other aspects of the task at the moment.
4. Teachers should identify correct actions and explain why when practical. To commend students helps build self-confidence and reinforces correct actions. It assures students they are capable and are making progress.
5. Teachers must identify actions that are incorrect and unsafe. They must explain what should be done to correct the errors.
6. Students should be encouraged to criticize their own actions. This reduces the negative effects of another's criticism and makes for self-reliance in promoting one's own progress.
7. Commentary driving is a must for developing and evaluating perceptual skills.
8. Students should be provided with a brief verbal evaluation at the end of each session. Steps for improvement can be included in the assignment for the next session. Backseat observer checklists should be collected and individual record cards should be updated.

### Student Observer Checklists

At the beginning of instruction in the dual-control training car, students should understand that back seat time is an important part of their training. By observing the student driver's responses and habits as well as other users, back seat observers will improve their own perceptual skills and judgmental abilities. Timely questions by the teacher and commentary driving will provide additional training.

Observation checklists on which student observers may rate performance, should be developed and used intermittently. Check the appendix for examples. Judicious use of these can aid in student progress and teacher evaluation. Such checklists consist of items having to do with correct operational procedures as well as performance skills. They can serve as a learning tool for both the observer and student BTW.

## Teacher Checklist and Record

A comprehensive checklist and permanent record card for each student should be used by teachers for formative evaluation and record keeping. A within-the-lesson evaluation provides feedback from the learning process and confirmation of performance to students before proceeding to the next sequence of instruction. As such, it also becomes an effective guide for the planning of daily sessions.

The BTW DRIVER COMPETENCY RECORD form is a sample of such a checklist. (See Appendix.) It is somewhat unique in that it provides for mental processing competencies along with the basic skills and maneuvers. An important part is the placing of number values on the various competencies. Such quantification provides a better minimum criterion for passing. Other reasons for quantifying performances are to:

1. compare results obtained from various kinds of instructional treatments.
2. communicate with other instructors and parents in exact terms.
3. motivate students by providing an exact goal and feedback.
4. profile performance so that students can see quickly and easily what has been achieved and what remains to be done.
5. establish a time frame that will help teachers pace the rate of instruction properly throughout the course.

One of the problems in using such a checklist is the question of deciding when to award points for satisfactory performance. This will come with experience. Here are a number of qualities that a teacher can look for when evaluating performance.

Form -- Does the driver show good form and technique?

Time -- Is the operation done in a normal amount of time?

Smoothness -- Does the driver handle the car smoothly and in full control while performing the skill?

Consistency -- Does the driver perform the same act in the proper manner each time?

Confidence -- Does the driver display confidence?

Assistance -- Must driver be cued or assisted? If so, they are not ready to be awarded points.

## Final Road Test

The final road test should assess a student's ability to make wise and timely decisions. Basically, this involves the management of space and time. Such a test need not include an assessment of basic control skills, procedures for maneuvers, eye habits, or identification habits. These skills and habits are to be considered prerequisites that should have been acquired and already evaluated during the course. The main purpose of the final road test is to measure a student's responses to representative traffic situations.

There are five basic response categories that have been identified as covering most if not all decisions required of the driving task. Each of these responses is listed below along with a few examples of specific situations that could elicit such responses.

1. Path Selection
  - a. Turning right with sharp curbing.
  - b. Turning left or right onto multiple-lane streets.
  - c. Turning left or right off multiple-lane streets.
  - d. Facing hazards from either or both sides.
  - e. Turning left off a narrow side street.
2. Speed Selection
  - a. Entering and exiting traffic at commercial driveways.
  - b. Approaching blind intersections.
  - c. Approaching oncoming cars in reduced space areas.
  - d. Establishing a following distance.
  - e. Making a lane change and timing signal lights.
3. Gap Selection
  - a. Turning left against traffic.
  - b. Intersecting with traffic when crossing or turning.
  - c. Entering or exiting and merging.
4. Space Margin Maintenance
  - a. To sides and rear.
  - b. Following distances.
  - c. Space ahead when stopped behind other vehicles.
5. Communication Selection
  - a. Intentions for turning, stopping, and passing.
  - b. Warnings such as trouble ahead.
  - c. Presence such as when pulling into an alley.
  - d. Feedback such as eye contact at a 4-way stop.

This road test, like any other one, consists of having a student drive over a prescribed route while the teacher uses a rating form to make a record of the performances or responses. The route selected must have enough of the various situations so that each of the basic responses is elicited at least three or four times. It must be laid out so that an administrator will not be overloaded with observations and recording duties.

There are two general types of situations that may be classified as "dynamic" and "static." Static situations are those that do not vary from time to time. They are related mostly to highway design features such as changes in space or visibility. The reduction in the number of lanes is a good example.

Dynamic situations are those that vary from time to time because of changing traffic conditions. Therefore, areas need to be selected where there is a high probability of occurrence. Left turns against traffic is a good example.

Here are suggested steps to follow when setting up the route and developing a checklist form.

1. Select an area in your community where you will find the desired situations.
  - a. Driving on, crossing, turning onto, and turning off of an arterial street may lead to many of the situations required.
  - b. Draw a rough map of the streets and situations selected.

2. Drive through the areas and look for checkpoints and check-areas.
  - a. Have at least two staff members drive together.
  - b. Keep track of time. It is usually best to allow 45 minutes for the full route. Then two students can be evaluated.
  - c. Pick a large number of dynamic situations to make sure of their occurrences.
  - d. For those responses that are difficult to find, you can provide some directions that will set up the need for the desired response.
3. Make a preliminary checklist.
  - a. List all situations and briefly describe checkpoints or check-areas.
  - b. List the instructions to be given to students and any special direction needed by the test administrator.
  - c. List all possible responses for each situation.
4. Tally and equalize the responses.
  - a. Try to include at least five each of the basic responses required for each student or segment of the route.
  - b. Decide which response is to be evaluated for each situation.
5. Re-drive the route and revise.
  - a. Check the time for both segments of the route. (20 minutes each?)
  - b. Review all checkpoints, check-areas, and responses.
  - c. Select the best time and place to give instructions and record checks.
6. Make final checklist.

### SUGGESTED SCHEDULES FOR LESSONS

The suggested schedules listed here are for one hour practice periods and three students in the dual-control cars. Two students are to be assigned to the driving range cars and two students are assigned to each simulator unit. These schedules should provide for a minimum of six hours BTW or the equivalent when simulators and/or driving ranges are used. Hopefully, the state teacher organizations will work to have this minimum standard increased.

Students do not need a wheel in their hands to analyze and indicate the proper responses to traffic situations being encountered. Therefore, it is highly recommended that three students be considered the optimum number to be assigned for practice driving on the street. Practice driving routes and lesson planning for 18 sessions in the car can provide for more varied roadway exposures and a better opportunity to develop mental habits. Driving time and teacher load would be the same as for two students, but the more properly structured back seat observation can be spread over a longer period of time. Teachers and parents then would have a greater time frame in which to influence safe behavior patterns.

When the laboratory experiences include simulation or the driving range, it is best to schedule four hours of BTW in traffic. Two hours in traffic should be the minimum time for a four-phase program.

## SCHEDULE FOR DUAL-CONTROL CAR ONLY

1. STARTING AND STOPPING -- OFF STREET
  - a. Entering car procedures
  - b. Starting engine habits
  - c. Moving car forward and backward in straight line
  - d. Stopping using smooth and quick stops -- securing car
2. MAKING LEFT AND RIGHT TURNS -- OFF STREET
  - a. Review starting and stopping
  - b. Do lateral control drills and serpentine
  - c. Practice left and right turns -- steering wheel skills and eye habits
3. ENTERING AND LEAVING TRAFFIC -- TURNS
  - a. Entering traffic lane from curb
  - b. Making right and left turn on-street
  - c. Leaving traffic lane and parking parallel to curb
  - d. Parking up and down hill when changing drivers
4. LANE POSITIONING AND SPEED CONTROL
  - a. Eye habits for steering and positioning
  - b. Maintain lane position for steady speeds of 25, 35, & 45 mph
  - c. Identify 2-second following distance and 4-second stopping distance
  - d. Accelerating and decelerating in D, D-1, and D-2
  - e. Introduce off-road recovery if practical
  - f. Up and down hill park when changing drivers (also rest of lessons)
5. REVIEW OF TURNING AND SPEED CONTROL
  - a. Practice turns in variety of situations
  - b. Review eye habits for car control
  - c. Practice adjusting speed for conditions
  - d. Use limited commentary driving for intersections
6. CHANGING LANES IN TRAFFIC
  - a. Review two-second following distance
  - b. Change lanes from right to left
  - c. Change lanes from left to right
  - d. Review turning and speed control
7. IDENTIFYING TRAFFIC CONTROLS
  - a. Practice scanning habits
  - b. Use commentary driving to identify traffic controls
  - c. Review lane positioning and adjusting speed to conditions
  - d. Practice turning right on and off of through streets

8. IDENTIFYING HIGHWAY CONDITIONS -- MEETING AND FOLLOWING
  - a. Practice scanning twelve seconds ahead
  - b. Use commentary driving to identify changes in highway conditions
  - c. Practice meeting and following other users
  - d. Review lane positioning and adjusting speed to conditions
9. IDENTIFYING OTHER USER ACTIONS -- MEETING AND FOLLOWING
  - a. Practice scanning twelve seconds ahead
  - b. Use commentary driving to identify other user actions & closings
  - c. Practice meeting and following other users
  - d. Review lane positioning and adjusting speed to conditions
10. CROSSING AND TURNING AT MULTIPLE LANE INTERSECTIONS
  - a. Practice positioning and timing at busy intersections
  - b. Use commentary driving to identify light changes and hazards
  - c. Practice left turns against traffic -- Gap selection
  - d. Practice turning off and onto one-way streets
11. MERGING AND EXITING AT INTERCHANGES -- PASSING
  - a. Practice merging onto a freeway or expressway
  - b. Practice simulated passing on the freeway
  - c. Practice twelve second visual lead and lane positioning
  - e. Review two second following distance
  - f. Practice exiting from a freeway -- follow routes
12. ANGLE PARKING AND TURNABOUTS
  - a. Practice backing in a straight line
  - b. Enter a driveway from left and back to right
  - c. Enter a driveway from right and back to the left
  - d. Practice the three-point turnabout
13. PARKING AT SHOPPING CENTERS
  - a. Enter and back out of angle parking stalls
  - b. Enter perpendicular parking stalls from right and from left
  - c. Back out of perpendicular parking stalls to right and to left
14. PARALLEL PARKING IN TRAFFIC
  - a. Practice parallel parking between two cars
  - b. Practice parallel parking on left side of one-way street
15. EVASIVE MANEUVERS -- OFF STREET
  - a. Swerve right and left exercises
  - b. Controlled braking and serpentine exercises
16. GENERAL REVIEW FOR ROAD TEST
17. FINAL ON-ROAD SITUATIONS TEST
18. GENERAL REVIEW AND TEST FEEDBACK



## SCHEDULE FOR SIMULATION AND THE DUAL-CONTROL CAR

1. SIMULATION #1 -- STARTING AND STOPPING
  - a. Orientation to unit operation -- advantages and disadvantages
  - b. Rules for care and correct use -- Duties of partner
  - c. Drills for starting and stopping using transparencies
  - d. Lateral control drills with transparencies -- steering methods
2. SIMULATION #2 -- RIGHT AND LEFT TURNS
  - a. With segments of film, review operation of units and controls
  - b. Left and right turn drill with transparencies
  - c. Making left and right turns with selected film
3. SIMULATION #3 -- ENTERING AND LEAVING TRAFFIC
  - a. Review left and right turns
  - b. Drills for entering and leaving traffic
  - c. Drills for parking up and down hill
  - d. Practice to selected film
4. DUAL-CONTROL CAR #1 -- LEFT AND RIGHT TURNS
  - a. Entering and leaving traffic
  - b. Left and right turns
  - c. Parking up and down hill when changing drivers
5. SIMULATION #4 -- LANE POSITIONING AND SPEED CONTROL
  - a. Introduce eye habits for car control
  - b. Introduce two-second and four-second distances
  - c. Drill for accelerating and decelerating in D, D-1, and D-2
  - d. Introduce off-road recovery techniques
  - e. Practice drive with selected film
6. DUAL-CONTROL CAR #2 -- LANE POSITIONING & SPEED CONTROL
  - a. Maintain lane position for steady speeds of 25, 35, and 45 mph
  - b. Practice accelerating and decelerating in D, D-1, and D-2
  - c. Identify two-second following & four-second stopping distances
  - d. Practice off-road recovery technique
  - e. Review turning from moderate speeds
7. SIMULATION #5 -- LANE CHANGES
  - a. Review left and right turn drills
  - b. Lane change drill with transparencies
  - c. Film for lane changes and variety of turning situations
8. DUAL-CONTROL CAR #3 -- LANE CHANGES
  - a. Review two-second following distance
  - b. Review turning and speed control
  - c. Lane changes from right to left and left to right

9. SIMULATION #6 -- IDENTIFYING TRAFFIC CONTROLS
  - a. Introduce scanning habits for identification
  - b. Identify traffic controls in a variety of film situations
  - c. Limited use of commentary driving method
10. DUAL-CONTROL CAR #4 -- IDENTIFYING TRAFFIC CONTROLS
  - a. Practice scanning habits
  - b. Review lane positioning and speed control
  - c. Use commentary driving to identify traffic controls
  - d. Practice turning right on and off of through streets
11. SIMULATION #7 -- IDENTIFYING HIGHWAY CONDITIONS
  - a. Review highway conditions to search for
  - b. Identify changes in highway conditions on film
  - c. Practice meeting and following other users
  - d. Use commentary driving and checklist
12. DUAL-CONTROL CAR #5 -- IDENTIFYING HIGHWAY CONDITIONS
  - a. Review lane positioning and speed control
  - b. Practice meeting and following other users
  - c. Use commentary driving to identify changes in the roadway
  - d. Practice scanning twelve seconds ahead
13. SIMULATION # 8 -- IDENTIFYING OTHER USERS
  - a. Review other user clues to look for
  - b. Practice identifying other user clues on film
  - c. Use questions to selected film segments and commentary driving
14. DUAL-CONTROL CAR #6 -- IDENTIFYING OTHER USERS
  - a. Review meeting and following other users
  - b. Use commentary driving to identify other user actions
  - c. Review lane positioning and lane changing
15. SIMULATION #9 -- MULTIPLE-LANE INTERSECTIONS
  - a. Review timing and positioning principles for intersections
  - b. Practice crossing and turning right at busy intersections
  - c. Practice left turns against traffic at multiple-lane intersections
  - d. Practice driving onto and off of one-way streets
16. DUAL-CONTROL CAR #7 -- MULTIPLE-LANE INTERSECTIONS
  - a. Practice positioning and timing for crossing and turning
  - b. Practice left turns against traffic -- gap selection
  - c. Practice turning onto and off of one-way streets
17. SIMULATION #10 -- INTERCHANGES AND PASSING
  - a. Drills for merging and exiting at interchanges
  - b. Drills for passing an ongoing cars
  - c. Review off-road recovery technique
  - d. Drive to freeway film

18. DUAL-CONTROL CAR #8 -- INTERCHANGES AND PASSING
  - a. On way to freeway, practice off-road recovery
  - b. Practice entering and exiting freeways
  - c. Practice simulated passing and rapid acceleration
19. SIMULATION #11 -- PARKING
  - a. Drills for angle and perpendicular parking
  - b. Drills for parallel parking
  - c. Drills for three-point turnabout
  - d. Drive to film with heavy traffic and parking
20. DUAL-CONTROL CAR #9 -- PARKING
  - a. Review backing in a straight line
  - b. Practice parking at shopping centers
  - c. Practice three-point turnabouts
21. SIMULATION #12 -- EVASIVE MANEUVERS
  - a. Responses to various emergencies
  - b. Evasive maneuvers and crash avoidance
22. DUAL-CONTROL CAR #10 -- EVASIVE MANEUVERS OFF STREET
  - a. Swerve right and left exercises
  - b. Serpentine and controlled braking
23. SIMULATION #13. -- REVIEW FOR ROAD TEST
  - a. Drive film with heavy traffic
  - b. Responses to situations involving gap selection, selection of best path, selection of best speed, space margin maintenance, and selection of best communication
24. DUAL-CONTROL CAR #11 -- FINAL ON-ROAD SITUATIONS TEST
25. SIMULATION #14 -- COMPLEX TRAFFIC
  - a. Review On-Road Situations Test
  - b. Drive to complex traffic film
26. DUAL-CONTROL CAR #12 -- GENERAL REVIEW
27. SIMULATION #15 -- DRIVING TO VARIETY OF TEST SITUATIONS
28. SIMULATION #16 -- GENERAL REVIEW AND TEST FEEDBACK

#### **SCHEDULE FOR SIMULATION, RANGE, AND DUAL-CONTROL CAR**

1. SIMULATION #1 -- STARTING AND STOPPING
  - a. Orientation to unit operation -- advantages and disadvantages
  - b. Rules for care and use of units -- duties of partner
  - c. Drills for starting and stopping using transparencies
  - d. Lateral control drills with transparencies -- Steering methods

2. DRIVING RANGE #1 -- STARTING AND STOPPING
  - a. Orientation to unit operation -- advantages and disadvantages
  - b. Rules for care and use of units -- duties of partner
  - c. Drills for starts, stops, and backing with transparencies
  - d. Lateral control drills -- brake and steering methods
3. SIMULATION #2 -- LEFT AND RIGHT TURNS
  - a. With segment of film, review operation of units and controls
  - b. Drills for entering and leaving traffic with transparencies
  - c. Drills for left and right turns with transparencies
  - d. Left and right turns with selected film
4. DRIVING RANGE #2 -- LEFT AND RIGHT TURNS
  - a. Review starting, stopping, and backing
  - b. Left and right turns around the perimeter
  - c. Serpentine on one side for lateral control drill
5. DRIVING RANGE #3 -- ENTERING AND LEAVING TRAFFIC
  - a. Review turns around the perimeter, then two-way traffic
  - b. Practice a variety of turning situations
  - c. Practice entering and leaving traffic
6. SIMULATION #3 -- LANE CHANGES
  - a. Review right and left turn drills
  - b. Lane change drill with transparencies
  - c. Practice to film with lane changes and a variety of turns
7. DRIVING RANGE #4 -- LANE CHANGES
  - a. Review turns at various intersections
  - b. Practice up and down hill parking
  - c. Practice lane changes
8. DUAL-CONTROL CAR #1 -- LEFT AND RIGHT TURNS
  - a. Entering and leaving traffic
  - b. Parking up and down hill
  - c. Left and right turns in light traffic
9. DRIVING RANGE #5 -- REVIEW OF BASIC SKILLS
  - a. General review of basic control skills
  - b. Traffic mix patterns with focus on eye habits and right-of-way
10. SIMULATION #4 -- IDENTIFYING TRAFFIC CONTROLS
  - a. Review perceptual guides and what to look for
  - b. Practice searching for controls in a variety of film situations
  - c. Begin limited use of commentary driving technique
  - d. Select a number of film segments to use like the classroom flash-slide method. Stop film and ask three questions using an answer sheet

11. DUAL-CONTROL CAR #2 -- IDENTIFYING TRAFFIC CONTROLS
  - a. Practice perceptual skills for identifying traffic controls
  - b. Use of Back Seat Bingo, Eye Habit Checklist, and limited commentary driving method by backseat observers
  - c. Driving on arterial streets with some lane changing and right turns onto and off of through streets -- light traffic
12. SIMULATION #5 -- IDENTIFYING HIGHWAY CONDITIONS
  - a. Review highway conditions to look for from classroom study
  - b. Practice searching for changes in highway conditions on film
  - c. Use limited commentary driving method
  - d. For various film segments, ask three true-false questions
13. DUAL-CONTROL CAR #3 -- IDENTIFYING HIGHWAY CONDITIONS
  - a. Practice identifying change in highway conditions in a variety of situations. Use 2-4-12 Checklist and Conditions Checklist
  - b. Practice lane changing from right to left and left to right
14. SIMULATION #6 -- IDENTIFYING OTHER USER CLUES
  - a. Review other user clues to look for from classroom activity
  - b. Practice searching for other user clues on film just as with slides in classroom
  - c. Use commentary driving and true-false questions for film segments
15. DUAL-CONTROL CAR #4 -- IDENTIFYING OTHER USER CLUES
  - a. Practice identifying other user clues -- closing checklist
  - b. Practice left turns against traffic.
  - c. Practice following, being followed, and meeting other users
16. SIMULATION #7 -- PARKING
  - a. Parking drills using transparencies
  - b. Practice timing and positioning responses to film situations
17. DRIVING RANGE #6 -- PARKING
  - a. Practice various parking maneuvers
  - b. Review and practice those skills as needed
18. SIMULATION #8 -- INTERCHANGES AND PASSING
  - a. Review timing and positioning principles
  - b. Drill for off-road recovery with transparencies
  - c. Drill for entering and exiting at interchanges
  - d. Drill for passing ongoing cars
  - e. Practice entering and exiting at interchanges and passing on on freeways
19. DRIVING RANGE #7 -- INTERCHANGES AND OFF-ROAD RECOVERY
  - a. Practice merging and exiting exercises
  - b. Practice off-road techniques
  - c. Review parking or other exercises

20. DUAL-CONTROL CAR #5 -- INTERCHANGES AND PASSING
  - a. On the way to freeway, practice off-road recovery
  - b. Practice entering and exiting expressways
  - c. Practice simulated passing and rapid acceleration
21. SIMULATION #9 -- HEAVY CITY TRAFFIC
  - a. Practice driving to film with heavy city traffic
  - b. Other as needed
22. SIMULATION #10 -- REVIEW FOR FINAL ROAD TEST
  - a. General review of timing and positioning principles
  - b. Selected film with responses to situation involving gap selection, selection of best path, selection of best speed, space margin maintenance, and best communication
23. DUAL-CONTROL CAR #6 -- FINAL ON-ROAD SITUATIONS TEST
  - a. Responses to variety of situations as shown in simulation
  - b. Administer without coaching
24. SIMULATION #11 -- EVASIVE MANEUVERS AND EMERGENCIES
  - a. Feedback for on-road situation test
  - b. Responses to various emergencies
  - c. Responses for evasive maneuvers or crash avoidance
25. DRIVING RANGE #8 -- EVASIVE MANEUVERS
  - a. Swerve right and left exercises
  - b. Serpentine and controlled braking
26. SIMULATION #12 -- FINAL SITUATIONS TEST ON FILM
  - a. Responses to film segments for final test
  - b. Feedback for final film test
  - c. Final remarks

A gloomy scientist has computed that a blink of the human eye required one-fifth of a second and that the average person blinks 25 times per minute. Thus, a motorist on a 10-hour trip at 55 mph is driving blind for 45.8 miles.

## PARENT PARTICIPATION PROGRAM

Driver and traffic safety education must be considered a shared responsibility of the community, school, and home. Reaching out to parents and the community will make the work of the schools easier and more effective. It will provide for better understanding and support. But, most of all, it will improve the learning opportunities and experiences for young people.

Parents probably provide one of the greatest sources of support for driver education. Not only do parents have students who are or will be eligible for driver instruction, they also are the largest group of taxpayers. Poll after poll shows that parents want their teenagers to have driver education, and that they believe such instruction is best provided by the local high school. So, driver educators would be wise to promote the continued support of parents by involving them in the local high school programs.

Many high school teachers have been reluctant to invite parents to become involved. They think that parents might provide training that is not compatible with that of the school. But, parents usually have a far more persuasive influence over the behavior of a teenager than does a teacher. They also are one of the best motivators of their children for learning. So, by inviting parents to be partners, there is a better chance they will become better traffic safety models for their children.

If the parent-school partnership is to produce results, then there must be a carefully prepared plan approved by the administration. Here are five objectives for building a successful school-home program.

1. To provide for additional supervised practice by parents which can result in a better prepared student driver.
2. To provide parents a better knowledge of the local driver education program which can result in increased support for driver education.
3. To promote better traffic safety communication between parents and teenagers which can result in better supervision of the licensed driver.
4. To provide parents with driver and traffic safety knowledge which can result in their driver improvement.
5. To inform parents of automobile dealer assistance which can result in greater dealer support.

### Supplemental Practice Driving

In addition to the support of parents for driver education, teachers need the help of parents for additional supervised practice driving. With limited resources and time, public schools at best can only lay a good foundation for safe driving. It remains for family members to provide the necessary additional time and miles of supervised BTW experience both during and after the course. Parent involvement can help produce a more competent young driver and at the same time help improve the driving habits of adults.

Parents or relatives can help the most during the course by providing extensive practice in car-control skills and the basic maneuvers. Mastery of these skills can take considerable repetitive practice which is quite time consuming. When practical, parents should be encouraged to provide two hours of practice in the family car for each lesson given in the school car. In those states where license permits restrict the learner to the school car, then teachers should work to change the laws.

If the participation of parents is to be effective, they must be provided with the necessary materials and guidance. The HANDBOOK FOR LEARNING TO DRIVE is designed to involve parents in a systematic and step-by-step manner. First, the parents can be asked to supervise such activities as making checks under the hood, making use of the car owner's manual, changing a tire, and comparing the gasoline mileage for various driving habits.

Once the student has completed the first five lessons in the Handbook, parents can be invited to provide additional practice. This practice in the family car should be limited to those lessons completed in the school car.

After the course is completed, parents should be encouraged to supervise night driving, parking, passing on two-lane highways, and sustained driving on rural highways. Altogether, the beginning driver needs at least fifty hours of driving experiences to be reasonably prepared for coping with today's traffic problems.

### Parent Orientation Meeting

An evening meeting with parents should be scheduled after the student's second lesson in the school car. A carefully prepared letter of invitation needs to be sent directly to parents. In addition, students are asked to remind their parents of such a meeting and its importance to both parents and students.

At this meeting, parents should be provided with specific information about how the laboratory instruction is conducted and how they can make a contribution. It should be emphasized from the beginning that they are to be considered as true partners in the process of helping their teenager become a safe driver. They need to be reminded of their legal responsibilities as well as their main role in providing additional supervised practice in the family car.

The main part of the meeting should be devoted to practical suggestions that will help parents supervise safe practice in the family car. They can be provided a brief orientation to the student's laboratory Handbook. Special attention should be given to those learning activities that have been prescribed for the family auto. Reserve plenty of time for questions and answers. Begin and end on time.

Other topics for discussion at such a meeting are state driver license provisions, the course outline, car insurance, state curfew and drinking laws, and the school policies relating to driver education. A local police officer may be invited to discuss the community statistics for teenage driver collisions and law violations.

Some teachers tend to get discouraged if only a small percentage of parents come out. But, after two or three successful meetings, the word soon gets around that such meetings are interesting and very helpful. After all, working closely with some parents is better than none. Many schools are able to have at least fifty percent of the parents in attendance.

After the meeting, materials should be mailed to those parents not in attendance. All parents are encouraged to participate in the program and to sign a log of the student's out-of-class practice time. This form can also be used for getting some feedback. Any communication can be important.

### Parent-Teen Contract

Contrary to outward appearances, most teenagers need and want parental help and authority. They want it more than they want indulgence, although they may never say so or admit it. This is especially true when it comes to the use of an automobile.



Certain conditions need to be set up, discussed and agreed upon before a young person is allowed to use the family car or to own one. Will the maintenance and fuel costs be shared? Will the use of the car be linked to grades in school and performance at home? These and any regulations, such as use of the seat belt, should be identified in a clear and concise way.

Once the conditions are agreed to, they must be strictly and promptly enforced. A loss of the driving privilege is the usual consequence of an infraction. Both the parents need to be involved. They must be fair and consistent.

The best approach is for teachers to provide parents with samples of written agreements or contracts. Such an agreement can be a bridge across emotional communication barriers. It must be understood and signed by both parents and teenagers. When a formal agreement is fairly enforced, it can lead to responsible behavior, economical operation, and safe performance.

### Letters to Parents

A series of letters should be formulated and used regularly. Such letters may provide information about the course, scheduling, legal responsibilities, and practice driving suggestions. The last letter is sent after the course completion, and it can be very important for promoting more supervised practice. Parents need to be aware of the problems that are created when 16 and 17 year olds are allowed to own cars. Four sample letters are provided which can be modified to fit local needs.

### LETTER TO BE SENT DURING FRESHMAN YEAR

Dear Parents:

No doubt your teenager is eagerly looking forward to age 16 and the privilege of becoming a licensed driver. As parents and teachers, we have a serious responsibility to provide our youth with an opportunity to learn how to use the motor vehicle wisely and safely. The following information is provided to help you plan ahead for this vital program of instruction.

Driver education, including both classroom and laboratory instruction, is offered as a separate course at Washington High School. Students may enroll either during a regular semester or summer school session. This instruction is most effective when students are at the height of their own motivation to learn, and it is most valuable when they will soon be able to apply what has been learned. Therefore, we recommend that your student not be enrolled until such time that he or she will have reached the legal licensing age by the time of the course completion. Enrollment for those who have emotional problems or lack sufficient maturity to accept the responsibilities involved should be delayed to a later date.

Please be reminded that no person may legally drive any automobile upon the public highways or streets without a valid instruction permit or license. Also, it is a misdemeanor for the owner of a motor vehicle to authorize or knowingly permit such vehicle to be driven upon a roadway by a person who is not properly licensed. Please remember that the impressions gained by young people while riding with you as a driver are highly resistant to change later on.

Today, the young driver and the automobile form a combination of great social and economic concern. Together, we hope it will be possible to provide your teenager with a sound basis for a lifetime of safe and efficient driving. Let us know if we can be of help.

Sincerely,

## LETTER TO BE SENT BEFORE BTW BEGINS

Dear Parents:

We are pleased to have your teenager enrolled in our driver education course this semester. This course consists of both our state approved classroom and laboratory instruction which includes practice driving in a dual-control automobile. The automobile is now being leased from the John Doe Motor Company.

All persons must have an instruction permit before they can legally practice drive on our streets and highways. Students are restricted by law to practice drive only when an instructor, parent, legal guardian, or person in loco parentis is sitting in the front seat. Such a person must have a valid drivers license and at least one year of driving experience. The instruction permit will be good for twelve months after the date issued.

We strongly recommend that all beginning students be restricted to the driver education car until such time as they have demonstrated their ability to control the car and turn corners with confidence and a relative degree of skill. You will be informed when practice in the family car is advisable. In the meantime, please be sure to review your insurance coverage on the car your teenager will be driving.

You are encouraged to review the current edition of our state RULES OF THE ROAD and read each lesson of your student's copy of the HANDBOOK FOR LEARNING TO DRIVE. Most lessons in this Handbook will have learning activities that can involve you or another relative. When parents and teachers work together, the students can then have more and better learning experiences.

It is our sincere hope that together we can provide an opportunity for your teenager to develop into a safe and efficient user of our modern highway transportation system. Please feel free to call upon us if you should wish further information or help.

Sincerely,

## LETTER TO BE SENT WHEN APPROPRIATE

Dear Parents:

Your teenager has now demonstrated the ability to control a car and turn corners with confidence and a relative degree of skill. However, mastery of these and other driving skills can take considerable repetitive practice which is quite time consuming. Therefore, you are encouraged to start providing supplementary practice in the family car under strict supervision and controlled conditions.

Before providing this additional practice, please read carefully the Learning Activities and Coaching Tips at the end of each lesson in your student's Handbook. Then, decide with your teenager a general pattern to follow for the practice sessions. Be sure to check each lesson in the Handbook for the procedures that are being taught in class. You will also find some fuel conservation ideas that may be helpful.

Enclosed is a form to complete so we can have a record of the kind and amount of additional practice your teenager receives. Comments may consist of the strengths and weaknesses observed. I would like to check this periodically to determine if there is a need for remedial learning activities.

You are encouraged to have your teenager make under-the-hood checks, check the tire pressure, and any other preventative maintenance checks called for in your car owner's manual. Changing the spare tire to one of the wheels and back again would be another good learning activity.

I believe that traffic safety is a shared responsibility of the home, school, and community. By working together, we can surely reduce the number of automobile collisions and have a safer community.

Please do not hesitate to call on me for further assistance.

Sincerely,

## LETTER TO BE SENT AFTER COURSE COMPLETION

Dear Parents:

Enclosed is a certificate which verifies that your teenager has successfully completed an approved driver education course. The course provides a sound foundation for the development of a safe driver. Hopefully, you can build upon this foundation with additional supervised practice.

We recommend you provide your teenager with driving experiences in a number of traffic environments under varied conditions. Special emphasis should be given to driving at night and on extended trips. We believe that our course graduates should spend at least another 25 to 30 hours of supervised practice behind the wheel before taking the state road test for a driver license. Even after the exam is passed, a new driver should demonstrate to your satisfaction the ability to drive in heavy traffic before being granted the privilege to drive solo.

You are certainly aware that 16 and 17 year olds have not yet fully developed a good sense of responsibility and judgment. But, with proper guidance and direction, our youth can become responsible as well as skilled drivers. Therefore, it is wise for parents to keep control of the car keys until their teenagers have graduated from high school. Studies have shown that school grades really suffer when students are permitted unrestricted use of either a family car or a personal car. There is also a greater likelihood that law violations and traffic collisions will occur.

Actually, in our state, parents have considerable legal responsibility for the safe driving performance of the youthful family members. The privilege for an unmarried minor to drive is given only with the consent of parents or a legal guardian. If this privilege is abused in the judgment of the consenting adult, then that privilege can be cancelled when a written request is forwarded to the Division of Driver Licensing.

Unfortunately, alcohol and other drugs are being used and abused by many of our youth. As a result, over half of the traffic deaths to teenagers can be attributed to young drivers who were under the influence of alcohol. How many non-fatal collisions can be attributed to drinking teenage drivers is hard to estimate. In our course, students do learn about the effects of alcohol and drugs on the driving task and methods for controlling such effects.

As you continue to provide your teenager with additional driving experiences, the automobile can become a place where an atmosphere of mutual trust and understanding exists. Then problems can be discussed more openly and honestly. Even though many teenagers do not use drugs, they will still be under much pressure at parties and in cars where the abuse of alcohol and other drugs take place. Parents can have a more positive influence than many realize.

Please do not hesitate to contact me if I can be of further help.

Sincerely,

## GUIDELINES FOR CONDUCTING LESSON 1 STARTING AND STOPPING

### LESSON OBJECTIVES

1. Students can describe and demonstrate the pre-starting checks and inspections that should be made outside the car. They can identify any problems.
2. Using proper procedures, students can make correct adjustments of the seat, mirrors, and the safety belt system within a minimum period of time.
3. Students can start and idle the car engine without racing it, flooding it, or clashing the starter motor gears. They can follow the proper procedures for saving gasoline.
4. Students can locate and operate the light switches, horn, windshield wipers and washers, fresh air controls, heater and defroster controls, sun visor, and hazard warning lights. They can read out loud the gauges.
5. Students can use the selector lever, brake, and gas pedal correctly to creep the car forward and backward. They can demonstrate the various methods for slowing down and braking the car to a stop.

### LEARNING ACTIVITIES

1. Read and memorize the procedure for each skill or habit. Read the owner's manual for your family car and complete the form provided. Be able to explain the order of the steps to be taken, and the reason for each step.
2. Observe your classmates as they practice the correct procedures in the school car. When asked, assist them during the first trial or two by reading the proper steps. Use a check sheet to record their progress.
3. On a level street or parking lot, practice the correct steps for each of the following drills until you can perform them without error:
  - a. Starting and idling the engine.
  - b. Creeping the car forward and backward a few feet.
  - c. Stopping smoothly and securing the car.
4. Practice these braking methods: cover brake, light braking, medium braking, and hard braking. Compare acceleration "feels" for creeping, smooth acceleration, and quick acceleration.
5. On your family car, lift the hood and check the coolant level, motor oil level, windshield washer fluid level, transmission fluid level, and the drive belt tightness. When your family car is stopped for gasoline, observe if the proper checks are made under the hood.
6. With a tire gauge, check the air pressure in the tires of your family car. Compare the air pressure before, when tires are cold, and after a trip.

### GENERAL APPROACHES

The purpose of this lesson is to initiate the development of pre-starting habits and the proper use of the car controls. These are fundamental habits and skills that are basic to the maneuvers. Faults in advanced habits and skills can be usually traced to a lack of mastery of the fundamentals. Be patient and make sure there are enough drills for proper habit formation.

What is to be included in the first BTW session will depend on the practice areas available, the number of students assigned to the car, and the entry level experience of the students. Parts of the first two lessons in the student manual may be considered for the first practice session. Only those activities and readings that can be applied during the practice session should be assigned. Otherwise, students will not know how best to prepare for sessions in the future.

Proficiency levels should be based on accurate "feels" and control analysis rather than just mechanical movements and procedures. The sense of feel provides for good coordination and smooth performance in the use of the controls. It should result in making smooth starts, stops, and turns. The student becomes comfortable and learns to know and feel ahead of time any dangerous attitude that the car may assume.

The sense of feel is developed by directed practice in correct performance. Good habits and a sense of feel cannot be acquired without continued practice. Drills are needed for the true beginner. Students should be given opportunities, not only to discover the effect of controls on the auto, but also on their own sensations. At first, they should be encouraged to use the controls freely and fully while observing the effect on both the car and on themselves. What students actually do to begin with is not nearly so important as the information they discover in the process. They need to learn what not to do as well as what to do. They should know, as early as practical, the reactions to abrupt use of controls as well as smooth and proper use.

Habits are learned, highly automatic acts. When a person responds to a recurring situation by performing a given action time after time without variation, that response tends to become automatic or habitual. It will then soon occur without one's attention, everytime its regular cue is present. Habits are controlled at the reflex level, not by ordinary processes of decision making.

A habit is acquired by the repeated practice of a procedure, and it is maintained until deliberate and controlled efforts are made to change it. Habits continue to maintain themselves as long as they succeed in satisfying a need. A deliberate effort to change a habit requires that the old habit be kept from recurring under any circumstances, and that the desired new one be deliberately used over a period of time long enough to cause it to become automatic.

It is not usually possible to establish a habit in one practice session. So, additional practice of the starting and stopping procedures will need to be included in succeeding lessons. Such procedures can be checked out whenever students change places BTW.

The first practice period should be a model for succeeding ones. It is important to establish a good rapport with students in an atmosphere where serious learning is to take place. Students should recognize immediately that careful preparation before each practice period is to be expected. They should expect also to participate in meaningful backseat activities and be mentally ready for their turn BTW.

## PRACTICE DRIVING AREAS

The first lesson is best conducted on an off-street area, such as a parking lot. If such an area is not available, then a residential street with little traffic may be selected. A straight stretch of level pavement 200 to 500 feet should extend in front of the car. Cones can be used to identify stopping points and the center of the travel path. The area should be also suitable for the assessment of skills already possessed by students with some driving experience.

## PRE-STARTING CHECKS AND HABITS

Very little time needs to be devoted to pre-checks during the first session in the training car. It is best to develop such procedures as habits over several practice

periods by integrating them with other activities. Such repetition and distribution of practice is less time consuming and is much more effective.

One student may be asked to verbalize or demonstrate the pre-checks the first practice session. The second student can be asked the second period and so on. Under the hood checks can be made at the beginning and end of the practice periods when one is waiting for all students to assemble or for the period to end. The Family Car Checkout form is provided so that most of these checks can be learned outside of class. It may be preferable to assign such activities at another time.

Adjustments of the seat and restraint system can be timed with a stop watch. This demonstrates how little time it takes which can enhance long term use. Seat cushions should be available for short students. Avoid lengthy explanations of the gauges at this time.

On fuel injected cars, it may be best to have the safety belts fastened after the engine is started. Then, students will give the engine time to run at normal idle. Otherwise, students may get into the habit of shifting to drive or reverse while the engine is running at fast idle. This could be hard on the transmission over time.

### STARTING AND STOPPING HABITS

As the training car is driven to a suitable location, the teacher should use the time to demonstrate and explain the habits to be learned. During the demonstration, direct the students' attention to the essential features of each procedure. The explanations should be kept brief and concise.

After the first student has started and stopped the car once, the use of the dual-brake should be demonstrated. Students should be shown how the teacher will assist with steering. Finally, an explanation should be given of how and when such control assistance is to be expected.

For establishing these habits, the car should be moved only a few feet at a time. Then little attention needs to be given to steering. Each student should have the opportunity to practice manipulating the safety and control devices as a dry-run drill before starting the engine. The engine should be started and stopped a few times before the car is moved. This gives the student a chance to assess the amount of pressures required and to become comfortable BTW. Have students verbalize reading of the gauges during and following the starting of the engine.

Each set of procedures is repeated a number of times until the student follows the steps in correct order without hesitation. Focus on the set of "feels" or feedback as well as the correct steps. Use the student observer **Checklist for Car Control** to expedite habit formation. The **Starting Procedures Test** can be administered to backseat observers during the second practice period. The checklists may need to be updated by reviewing the new car owner's manuals.

Backing is introduced this early so the car can be kept in a relatively confined area. Then there is no need to drive the car forward or backward any great distance. The primary concern is with manipulating the controls properly rather than steering.

When braking the car to a stop, students learn the pressure points by pumping the brake pedal lightly. Teachers may want to decide if the method is to be used during the course. It does flash the brake lights for a better signal, and it does prepare dodo drivers for stopping on slippery pavements. Never pump the brakes on a car with an anti-lock braking system (ABS).

## COORDINATION WITH SIMULATION

Over one-third of the students enrolled in driver education are receiving part of their laboratory instruction on simulators. So, there is a need to insure that such instruction is effective and well coordinated with the BTW instruction. For the simulator laboratory instruction to be effective, it must be conducted so as to promote those conditions conducive to positive transfer of training and to minimize conditions which are likely to induce negative transfer.

Positive transfer does not occur automatically. But, it can be facilitated when a teacher provides students with the general principles applicable to the tasks to be performed. Therefore, it is up to the teacher to utilize the films and simulator drills in such a way as to insure positive transfer.

It is recommended that students be given appropriate assignments in the HANDBOOK FOR LEARNING TO DRIVE before each simulator session as well as the BTW practice periods. In this way the general principles can be better understood and applied. Then, the Handbook can become a bridge between the simulators and BTW. Coming better prepared to laboratory classes increases practice time in both phases.

One advantage of simulators is that car control drills can be developed that can transfer and save much time in the car. Intensive work on steering wheel handling can make a difference in how rapidly students can improve and how well they can handle the car in general. It is recommended that the center steering position be marked on the top of each simulator car steering wheel. A small groove can be filed and filled with white paint, or white tape can be applied.

When space is available for the placement of arm chairs along each simulator unit, two students can be assigned to each unit. This makes for the more efficient use of the simulation films. Also, observers can be made responsible for completing checklists and helping their partners.

The first practice session should enable students to become proficient in the operation of the simulator units. A careful explanation of the dash and controls, prior to starting practice in the procedures, will facilitate learning their use in both the simulator laboratory and the dual-control car. Then, dry-run drills, using transparencies, can be conducted.

## DRIVING RANGE ACTIVITIES

If a driving range is available, two students should be assigned to a car. The one observing sits in the backseat and uses a checklist as directed. The cars are lined up in a row, side by side, with plenty of lateral space.

Students are drilled first on starting and stopping the engine. Then, they are drilled on moving the cars forward and backward a few feet at a time. The distances moved are increased as students become proficient. Lateral control drills can be included if there is time.

*Perhaps the principle problem of human memory is not storage, but retrieval.*



## GUIDELINES FOR CONDUCTING LESSON 2 MAKING LEFT AND RIGHT TURNS

### LESSON OBJECTIVES

1. Students can identify and apply laws that are related to turning corners.
2. Students can make right and left turns using skilled steering methods, proper positioning, efficient eye habits, and proper speed control.

### LEARNING ACTIVITIES

1. Memorize the procedures to follow for making correct turns. Review the laws that apply.
2. As an observer in the car, watch your classmates as they practice. Make note of any problems to be overcome. Use a checklist to keep a record of the driver's progress.
3. To help learn and coordinate the steps, practice mental rehearsal before and after the laboratory class.
4. As a driver, practice various types of turns until you can do them skillfully without coaching.

### GENERAL APPROACHES

This lesson deals primarily with motor skill development which is basic to the development of a competent car handler. Mastery of the car control and cornering skills is a prerequisite to the mental processing habits needed for driving in heavy traffic. It would be a mistake to try and work on perceptual skills along with motor skill development. Combining the two at this early stage would only be counter productive and an inefficient use of the practice time. Perceptual skills will be combined with the turning skills in a later lesson.

The development and improvement of motor skills is a task in improving neuromuscular coordination. It is not a task in understanding. But, the early attempts to perform a motor skill are easier and more successful when the student has a mental image of the action to guide the practice. Once the act is performed a few times, the reflexes take over and the mental image no longer has an important role.

There is a set of "feels" that go with each skill. These help one know whether the positions and movements are correct. Since form is also important in obtaining good coordination, a skill can develop more efficiently when a teacher knows the proper form and coaches the student during the first few trials. After going through the proper movements a few times, the student's movements begin to become self-guided and skill starts to appear. Then, coaching is no longer necessary. But, monitoring by the teacher should continue to be sure that progress is taking place. This means the teacher must learn to read the traffic picture around the car and at the same time observe the driver's movements.

Skills tend to level off at whatever level of quality the student is permitted to perform on a day to day basis. Motor skills can degenerate quite rapidly when they are not used. They also can degenerate if one is allowed to perform carelessly.

Since turning can be broken down into a least four parts or sub-skills, the part whole method for learning is recommended. Then, appropriate drills and coaching techniques can be established for each part. This makes it easier to diagnose learning

problems and set up remedial activities.

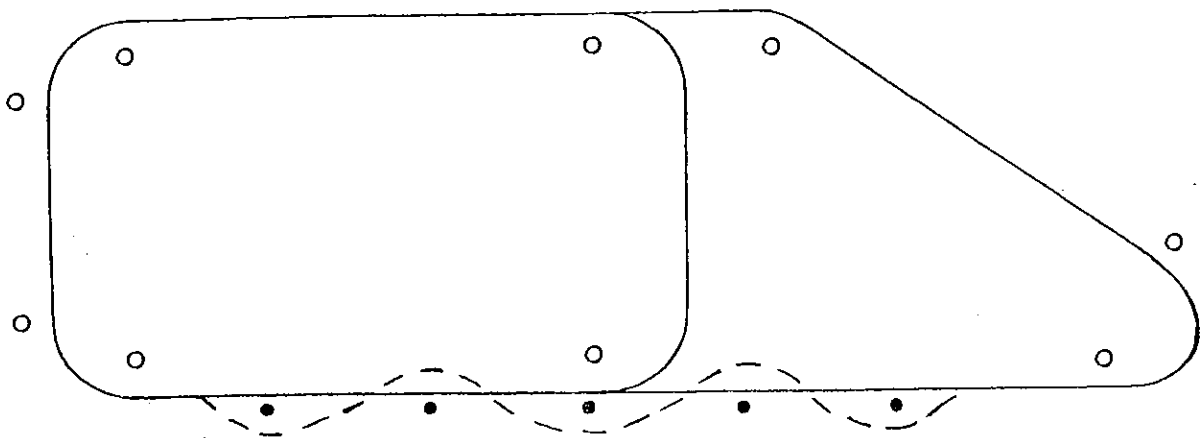
It is believed that lateral control drills can set the stage for the more efficient learning of left and right turns. They also help introduce vehicle capabilities and limitation concepts. A good knowledge of car capabilities goes hand-in-hand with car handling abilities. They set the stage also for evasive maneuvers that can be practiced toward the end of the course. After all, the main difference between an evasive maneuver and a basic maneuver is the quickness of the driver's action and the vehicle speed. So, lateral drills can give students a basic foundation for tracking, cornering, changing lanes, passing, and evasive maneuvers. Such drills can be set up on a vacant parking lot.

When three students are assigned to the dual-control car each hour, it will usually take at least three practice sessions for beginning students to achieve some degree of competence. The second and third sessions can be combined with Lesson 3 activities.

### PRACTICE DRIVING AREAS

The first practice session for making turns should be conducted on the same off-street area as used for Lesson 1. This enables each student to practice a maximum number of turns for the time allotted in a traffic free environment. Then, students can concentrate on motor skill development without having to scan for other traffic.

A rectangular area, about 150 by 200 feet, should be identified with cones. This should allow for a series of standard ninety degree left and right turns. The rectangular area could be expanded to form a trapezoid as is illustrated. This provides for practice making obtuse and acute angle turns. A serpentine exercise could be set up easily on the one longest side.



The second practice session on turning is to be conducted in a residential area with level streets and a minimum of traffic. Short square blocks are most desirable. Then, there is a need to progress to other areas with moderate traffic and a variety of turning situations. These routes should provide turning exercises that are: (1) from stopped and moving positions, (2) on various grades including hill tops and at the bottom of hills, (3) from sharp ninety degree corners to winding roads, (4) from a certain width street to one of a different width with both sharp and rounded curbs, and (5) from side streets to arterial streets to side streets.

## STEERING WHEEL SKILLS

A model demonstration of left and right turns should be made by the teacher while driving to the practice area. Direct the students' attention to the proper use of hands when performing the hand-over-hand and straightening up process. Verbal cues can consist of "start steering," "hold," and "start straightening." Some teachers may prefer other cues such as "start turning," "hesitate," and "start unwinding." Whatever terms are chosen, they should be used during the demonstration and later as coaching cues.

To assist with learning the hand-over-hand method, cut out 14 inch diameter discs from cardboard. Then, have students use them for practice when in the backseat or in the classroom. They can simulate driving to a film or transparency.

The first part of the cornering maneuver to begin perfecting is the actual mechanics of steering the car around the corner. Attention should be given to hand-over-hand technique, the amount of steering, and how fast the steering wheel is to be turned. These are the various elements that must be coordinated into one smooth operation. Where or when to start turning and straightening up are also critical to tracking along the proper path. On the level off-street area, students can concentrate on the mechanics of cornering without having to signal or accelerate.

For more efficient left turns, the right hand should start at the five o'clock point on the steering wheel and move smoothly all the way around to the nine o'clock position. Then, very little more steering action is needed to place the car into its proper tracking arc. Left turns are the easiest to begin with for true beginners.

For sharp right turns, the steering motion may need to begin slowly. Then part way through the turn, the hand movements will need to be faster for the car to track along the proper path. It should be noted if the driver is taking small bites on the steering wheel. Big, smooth turning movements are to be required since they contribute to better timing and make quickness possible when needed.

The most difficult part of turning for beginners to learn is the straightening up or recovery process. The most common error is making a late recovery. Students should realize that the front wheels steer the car, not the hood. They should be told that the proper time to start straightening is when the front wheels start to point down the street being turned onto. At that point, they are to release slightly the grip on the steering wheel so as to use the controlled slipping method. They must be reminded to keep in touch with the steering wheel, and be ready to use the hand-over-hand method if needed. The controlled slipping method is more efficient and forces the student to judge better when to start straightening the wheels. This is the time also when they must learn to start acceleration. Once students can coordinate the controlled slipping with a slight acceleration, they will get the front wheels to recover completely on their own.

## EYE HABITS

As soon as a few turns are made, attention should be given to proper eye habits for tracking the car along the intended path. It's the eye habits that can provide for better progress toward good timing and coordination of the steering skills and proper positioning. Learning to visualize the intended path and "looking through" the turn is the key to making smooth and correct turns. If a student cannot make their turns smoothly, they will have trouble with any advanced maneuvers.

After the hand-over-hand steering is begun, have a student look about a half block down the intended pathway. Students should be reminded not to look at the curb or hood of the car for steering purposes. Otherwise, the turn will be wide or

oversteered. During right turns, looking over at the right curb will usually cause oversteer which can lead to running over the curb. Looking at the hood will usually cause a late recovery.

### POSITION ON THE ROADWAY

Once steering wheel skills and eye habits are put together, it is time to focus on proper positioning and the application of traffic laws. It is important that space requirements and principles related to vehicle positioning be included. When students are learning what their car will do or not do in a variety of situations, then they will be better able to assess and predict the actions of other drivers. The objective is to build up a store of information about vehicle capabilities and limitations that can be continuously applied and reinforced.

Traffic laws dealing with maneuvers are best learned when they can be applied immediately. Students should be held responsible for learning the laws outside of the class. Then, the proper application of such information can readily take place in the practice driving sessions. But, the teacher must set the stage for such transfer of training to take place.

### SPEED CONTROL

The last step for becoming proficient in turning should be the application of speed control. The coordination and timing of physical actions is closely related to the speed of the car, so speed control should be introduced gradually during the developmental stages.

When a student demonstrates proper acceleration coming out of turns, it is time to start practicing turning right onto and off-of through streets. During the first few turns off-of a through street, students may have a tendency to practically stop before turning. This is especially true if another car is approaching from the side street.

### SIMULATION ACTIVITIES

After a brief review, drills are conducted for left turns, right turns and the serpentine exercise. Transparencies can be made to help guide the lateral control drills. The teacher can point to the various car positions and ask for the correct responses. In this way, the angle of the car can be noted for the amount of each turning action.

Once the dry run drills are completed, students can practice turning to selected segments of film. Save the multiple-lane turning segments for later lessons.

### DRIVING RANGE ACTIVITIES

The driving range should be set up for a variety of turning situations with two-way traffic on the perimeter.

For the next lesson, a curbing for parking on grades can be added along one side of the range. Students are instructed to practice leaving, parking, and entering each time they come to the designated curb or exercise area.

## GUIDELINES FOR CONDUCTING LESSON 3 ENTERING AND LEAVING TRAFFIC

### LESSON OBJECTIVES

1. Without slowing down other traffic, students can follow the proper steps to enter a traffic lane from a parked position.
2. From a traffic lane, students can follow the proper steps for leaving traffic to enter a parked position along the curb.
3. When stopping along a curb that is uphill or downhill, students can park parallel within 12 inches of the curb and leave the front wheels turned in the proper direction.

### LEARNING ACTIVITIES

1. Read and memorize the proper steps to follow for the given maneuvers. Be able to give reasons for each step and for the order of steps. Review the traffic laws that apply.
2. Measure the time it takes for a car to pull away from a curb and reach the speed of traffic. Then, practice estimating the gap needed for a car entering traffic from a stopped position.
3. Practice entering and leaving traffic in various situations. Illustrate the rule, "the closer a driver comes to another ongoing car or object, the greater the amount of space and steering is required."
4. Continue practicing making left and right turns.

### GENERAL APPROACHES

This lesson initiates the practice of basic maneuvers on street. These are basic in the sense that they form the foundation for most other maneuvers. In traditional programs, the focus of learning and perfecting the various maneuvers is on proper procedures and the traffic law applicable. In these lessons, the scope of training is broadened to include space and time concepts in order to make more efficient use of the time available. Then, there is the further development and improvement of the visual habits along with the path of travel concept.

For this and the next three lessons, learning experiences should be provided for four general objectives. These are: (1) further development of control and manipulative skills, (2) applications of laws relating to specific maneuvers, (3) further development and improvement of visual habits, and (4) applications of the space and time concepts as related to vehicle capabilities and limitations.

As students approach and drive through intersections, they may begin to use the limited commentary driving technique. This involves the observers at this stage, about one-half block ahead, using a few words to identify the type of intersection in terms of traffic controls and visibility. It is not wise to introduce the advanced scanning habits at this time. But, one should be alert for students who are staring, looking just over the hood or fenders, and failing to use the mirrors.

Some attention can be given to speed control and lane positioning. As students approach parked cars and oncoming cars, they should be corrected for the "shy away" responses. They should become more aware of speed too fast. They should also start developing the "cover brake" habit before entering intersections. A sample

checklist for basic maneuvers is provided for student observer use.

**Use of Reference Points.** -- In addition to a set of procedures and laws to follow, students will need to use reference points. This is because drivers can't see the real position of the car on the roadway due to the blindspots around their cars. If drivers can't see exactly where the right side of their cars are, they must estimate or judge how close they are to parked cars or to a curb. Reference points are used to help make such judgments. Otherwise, students will end up learning by trial and error and what "feels right."

Reference points may vary somewhat from person to person and from one vehicle to another. As students begin practicing a maneuver, they should be given reference points by the teacher or reminded of those suggested by the text. If they work, drivers should know what to look for the next time. If they don't work, then slight adjustments must be made. Students should be reminded that they may need to make slight adjustments in their reference points as they change from one car to another.

**Use Mental Rehearsal.** -- Research indicates that mental rehearsal is an effective technique for becoming proficient in a skill over a minimum period of time. Mental rehearsal is a learning procedure that is largely a matter of self teaching. It consists of getting a concept of certain movements and procedures well established in the mind. Then, a student rehearses these thought sequences over and over again so they become available for automatic use when required.

Handling a car in maneuvers consists of constant muscular coordinations called up by the will. It must become a completely automatic process. So, the student is encouraged to practice the maneuver in his or her imagination regularly. After sufficient practice, the mind becomes so conditioned that it will provide the body with the proper messages which enable it to make the car follow a certain pattern. Each night before going to sleep is a good time as well as during backseat observation time either in the school car or in the family car.

## PRACTICE DRIVING AREAS

The practice area should be selected so that entering and leaving traffic maneuvers can be combined with left and right turns. A residential area with fairly wide streets and little traffic would be best. Also, it would be best to have streets nearby with moderate traffic for the more advanced students.

## ENTERING TRAFFIC

This is the first lesson in which signalling and checking the blind spot is emphasized. Students should be reminded that a gentle push with the tips of their fingers is all that is needed to activate the signal lights. Grasping the lever and pulling or pushing hard can lead to damage of the mechanism. The importance of checking the blindspot each time should be well understood.

In the area selected, there may not be enough traffic to practice gap selection. But, this can be practiced in later lessons. Gradual acceleration up to the proper speed can be mastered along with the continued practice of centered-pathway driving.

## LEAVING THE TRAFFIC STREAM



Stopping parallel and close to a curb will present a problem for some. In additions to the other methods, the student can try the "wiggle in" method illustrated. This method consists of a series of turn and straighten actions. The process is repeated until the proper position is achieved. Once the car is along the curb, the habit of securing the car is reinforced.

## GUIDELINES FOR CONDUCTING LESSON 4 LANE POSITIONING AND SPEED CONTROL

### LESSON OBJECTIVES

1. Using correct eye habits, students can keep a car in the middle of a lane or pathway at speeds of 25, 35, and 45 mph under varying road conditions. They can make quick checks of the mirrors and gauges without losing lane control.
2. At speeds under 45 mph, students can demonstrate the proper steps to follow for downshifting and rapid acceleration.
3. In light traffic, students can identify the two-second following distance and the four-second stopping distance.
4. At speeds up to 45 mph on a two lane highway, students can demonstrate the proper steps for driving onto the highway after two wheels have dropped off onto the shoulder.

### LEARNING ACTIVITIES

1. For a given period of time, practice holding the speed of the training car at a steady speed of 25, 35, and 45 mph. Compare the car noise and vibrations made at the different speeds.
2. Practice good lane control within a ten foot lane of pathway. Check out the results of slight steering movements. Estimate the distance to the edge of the roadway and to the center from the sides of your car.
3. While driving at various speeds, state the reading of each gauge, and at the same time maintain good lane control. Explain what the readings mean.
4. Practice downshifting to "D-2" and "D-1." Compare the amount of acceleration and deceleration available with that available when in "D." Practice rapid acceleration.
5. Practice identifying the two-second following distance, the four-second stopping distance, and the twelve-second visual lead. Use a checklist to help your classmates. Discuss these eye habits with members of your family.
6. On a two-lane highway, practice pulling off of the roadway with just the two outside wheels. Then, follow the proper steps for returning to the pavement. Start with speeds of 30 mph and work up to 45 mph.

### GENERAL APPROACHES

This lesson provides for an in-depth training in using the eyes for controlling and guiding the car without losing lane control. Naturally, attention has been given to visual habits in the first three lessons, but the focus of most attention was more on the development of motor skills.

Three measurable eye habits for car control are introduced and practiced in this lesson. Continued practice in subsequent lessons should lead to proficiency. The eye habits for the identification process are introduced later only after students have mastered car control. The checks and interpretation of the gauges can be applied better at this time.

## PRACTICE DRIVING AREA

The best area for practice would be a rural state road or county blacktop with good sight distances and little traffic. Side roads should be available for easy right turns off and on. Some streets at the edge of a community may be suitable for some of the activities.

## STEERING WHEEL CONTROL ACTIONS

The terminology used for various amounts of steering actions is suggested as an aid in communication between teacher and students. They provide the students with a more measurable set of references during the training sessions.

## EYE HABITS FOR STEERING

A small eye-check mirror can be mounted on the dash or windshield so a teacher can observe eye movements of the driver. Students in the rear seat can help by observing eye habits through the rear view mirror. The Observation Checksheet for Eye Habits can be utilized in this and subsequent lessons.

## MAINTAINING LANE POSITION

It will help the student to be told periodically how far the right side of the car is from the edge of the pavement or lane line. The teacher may need to ask the driver where he or she is looking from time to time. To focus on high aim steering does not mean one should not also note the hood direction for small corrections that are needed to keep the car centered. Ask the driver questions such as, "How much gas do we have?" "Is the battery being charged or discharged?" "What is the engine temperature?" "Is the oil pressure OK?" "How fast are we going?" "Is there a car following us?" Remind them that two quick looks is better than one long look.

There is still a need for the driver to note the messages that a car can give. These are about vibrations, balance, tire grip, and wind noise. They are important since a car is continually shifting balance and making slight changes in direction. Some are detected by sound and sight, others are by feel.

## OFF-ROAD RECOVERY

Students should be asked to review what to do and what not to do while driving to a suitable area. Then, the driver is asked to drive at about 35 mph. As this speed is reached, the teacher places the left hand on the bottom of the steering wheel and guides the car so that two wheels gradually drop off onto the shoulder while two wheels remain on the pavement. The student then proceeds to follow proper steps for making a recovery. After two or three trials at speeds not greater than 45 mph, the student may be asked to make the drop off without teacher assistance. This assistance is recommended at first because students too often may misunderstand the instruction and take all four wheels onto the shoulder or turn too sharply.

Only a one-fourth turn is recommended for returning onto the pavement rather than the sharp turn suggested by traditional texts. The sharp turn can be easily exaggerated by the beginning driver who may end up with a car over the center line. The key to a safe recovery is to get the speed down to at least 30 mph before turning toward the pavement. Then just a slight turn will take the car back onto the roadway without any problem. Do not schedule this activity when shoulders are wet and soft.

A main objective of this exercise is to help the student become confident and comfortable with going off and back onto the pavement. Then, there should be no



hesitation for using the shoulder as an escape path. An introduction to this experience is provided early in the course so students can handle such a situation should it occur accidentally when practicing with parents or friends.

### **SPEED CONTROL SKILLS**

Along with the training in eye habits, students will be able to practice acceleration, deceleration, and adjusting to various speeds up to 45 mph. Then, they will begin to learn more about the capabilities and limitations of motor vehicles. The approach is to help students build up a store of information, in a rather painless way, about what a car can or cannot be expected to do. This learning can then be continuously applied and reinforced. Hopefully, it will help build up positive attitudes toward the proper use of cars.

When there is no traffic close behind, students are instructed to practice downshifting to "D-2" and "D-1." They should experience accelerating and decelerating in each position. This gives them a chance to compare the pick-up and slow-down for the three forward positions.

Selecting the appropriate speed for turning off of a rural highway can be a problem at first. After traveling 40-45 mph on a rural or suburban highway, students usually have difficulty estimating how much to slow down for making a turn onto a side road. So, the teacher should be ready to provide coaching for the first couple of turns in such a situation. Turning onto a rural highway and speeding up to the normal speed of traffic will also require some coaching at first.

It is best to have students in the backseat practice first the identification of the two-second following distance and the four-second stopping distance. Simulate when traffic is not available.

### **SIMULATOR ACTIVITIES**

Use transparencies to conduct drill for downshifting and off-road recovery.

*... "Teachers need to remind themselves periodically that teaching is not the same as learning. If we expect students to learn, more time should be spent on their learning than on our teaching. Some teachers are really preachers who have not received the calling."*

## GUIDELINES FOR CONDUCTING LESSON 5 CHANGING LANES IN TRAFFIC

### LESSON OBJECTIVES

1. For given traffic situations, students can select the best place for a legal lane change.
2. On multiple-lane streets in light traffic and at speeds of up to 45 mph, students can make proper lane changes from right to left and from left to right.

### LEARNING ACTIVITIES

1. Memorize the steps involved in lane changes. Be prepared to explain the reason for each step and its order in the sequence.
2. In a parking lot or on a side street, pull up parallel along another car 4-6 feet away. Move the training car forward and backward to demonstrate where the other car is located when it is in the blindspot.
3. As a backseat observer, review and practice the identification of the 2-4-12 second distances. Use the checksheet provided for recording the progress made by your classmates.
4. As a driver, practice making lane changes at various speeds.
5. As a passenger in your family car, identify the best places to make lane changes. Then mentally rehearse making such maneuvers. Identify areas in which lane changes are not allowed.

### GENERAL APPROACHES

This lesson will need to be conducted in traffic on multiple-lane streets or roads. Therefore, Students should have demonstrated proficiency in eye habits, lane control, and cornering. If they have not, then a full practice session should be scheduled for a review and practice of the last two lessons.

Before practicing lane changes on multiple-lane streets in traffic, students should first demonstrate the ability to check over the shoulder for blindspots and still maintain good lane control. After some practice in light traffic, students should have the opportunity to practice gap selection in moderate traffic at speeds up to 45 mph. Beginning drivers usually have a tendency to start steering before a over-the-shoulder check has been completed. And, many are apt to slow down instead of accelerating slightly. Being close to an intersection might be an exception.

### PRACTICE DRIVING AREAS

Multiple-lane undivided or divided streets and highway will be needed for lane changing. Light to moderate traffic is needed.

### STEPS FOR LANE CHANGES

In this lesson, students should begin by practicing the two-second following distance and four-second stopping distance. The checklist will help the practice.

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## GUIDELINES FOR CONDUCTING LESSON 6 ANGLE PARKING AND TURNABOUTS

### LESSON OBJECTIVES

1. Without obstructing traffic, students can follow the proper procedures for entering a driveway from the left or right, and they can back out of a driveway into the correct lane of traffic.
2. For given angle parking situations, students can demonstrate the proper procedures and vehicle control for entering and exiting. They are able to end up centered in the parking space by making only one turning attempt.
3. On narrow side streets, students can demonstrate the proper procedures for making the three-point turnabout.

### LEARNING ACTIVITIES

1. Read and learn the procedures to follow for angle parking and turning your car around in various situations. Review the traffic laws relating to parking requirements and restrictions.
2. At intersections in a residential area, practice backing around corners. Then practice entering and backing out of alleyways.
3. Drive to a shopping center or parking lot at a time when traffic is light. First, practice angle parking maneuvers in spaces where cars are not close by. Then, practice beside only one car. Next, practice parking in between cars.
4. On a narrow side street, practice turning your car around by using the three-point turnabout method.

### GENERAL APPROACHES

The design of late model cars creates a problem for looking out the back window and getting a good sense of direction. Teachers should try to find a good set of reference points to use for each car model used. The focus of learning should be on positioning and visibility.

For demonstration purposes, teachers should choose a narrow driveway or alleyway with hazards along one or both sides. This will show the importance of positioning in relation to the space available. It will also demonstrate the need for constantly checking all four corners of the car.

Drills on parking lots can be set up to help prepare for these backing maneuvers. Students can be directed through a series of exercises involving changing lanes while backing. Then, they can progress to backing around simulated corners by using cones. Students should be reminded that for each steering action in one direction there must be an equal action in the opposite direction.

Locate two or three intersections in a residential area with little traffic. Make sure the streets are level, and there is a clear view in all directions. Have students park along the curb a short distance from the curb. Then direct the practice of backing around corners. Students are then ready to progress to alleyways, driveways, and angle parking spaces at shopping malls.

## GUIDELINES FOR CONDUCTING LESSON 7

### IDENTIFYING CONTROLS AND HIGHWAY CONDITIONS

#### LESSON OBJECTIVES

1. As drivers, students can demonstrate efficient scanning habits for observing the traffic scene to the sides, the rear, and at least ten seconds ahead.
2. As drivers and backseat observers, students can identify ten seconds ahead of the car those signs, signals, and pavement markings present; they can also indicate the message intended for traffic.
3. As drivers and observers, students can identify ten seconds ahead of the car any changes in visibility, in traction, or in space to the sides.

#### LEARNING ACTIVITIES

1. Review your state traffic laws and other references provided that deal with traffic controls and highway conditions. Do self test and bring to class.
2. As a driver and observer, practice identifying all the traffic controls ahead. State the message and compare with your classmates. Play backseat bingo.
3. When driving or observing from the backseat, use commentary driving and checklists to identify the changes in highway conditions ahead.
4. As an observer in the back seat, watch the eye movements of the driver and record how many eye checks are made per block.
5. As a passenger in your family car, practice your scanning habits.

#### GENERAL APPROACHES

This lesson initiates the improvement of perceptual abilities through an effective training program. The perceptions of the well trained person are keener, more critical, and more analytical than those of the novice or uninitiated. In the case of automobile driving, the consequences are too great to allow inadequate or deficient perceptual abilities to be improved only as a result of random experiences.

The four main perceptual skills or habits to be developed in this lesson and the next are as follows:

1. Efficient Scanning Habits
  - a. Scans the scene ahead and to sides.
  - b. Scans the road surface.
  - c. Scans the mirrors and instrument panel.
2. Systematic Search Pattern
  - a. Searches for traffic controls.
  - b. Searches for highway conditions.
  - c. Searches for clues to other user actions.
3. Knowledge of Where and What to Look for.
  - a. Uses path of travel as main point of reference.
  - b. Builds up memory bank of related information.
  - c. Becomes mentally set and selective.
4. Search for Conflict Probabilities
  - a. Collects evidence for conflicts.
  - b. Collects evidence against conflicts.

It must be repeated that before beginning this lesson, students should be able to perform turning and lane changes with a rather high degree of skill. Undue attention to motor skills tends to interfere with learning of mental processing skills. When car maneuvering procedures become so semi-automatic that students no longer have to formulate such acts in the mind, then attention is freed for perception of the over-all traffic picture.

An understanding of the following principles should help determine the focus of training and the selection of routes.

**Association** -- Perception is a process of matching what comes into the sensory centers with what is already on file. Associating or relating things to each other aids in this matching or remembering.

**Classification** -- It is more efficient to deal with several things in an orderly and systematic way. The classification of HTS elements into meaningful groups prevents the overtaxing of the driver's perceptual abilities as well as providing structure.

**Selectivity** -- Since drivers cannot give attention to everything around them, they must select what to observe and concentrate on. The more distractions or events unrelated to the driving task that are attended to, the better chance there is for overlooking those events that are important to the path of travel. Without a systematic approach, a driver's selectivity will most likely be haphazard and ineffective.

**Set to Perceive** -- The selection and organization of incoming data will take time. But, a minimum of time is consumed if one is set to perceive and knows what to look for. Mental "sets" can be created by repetition and learning. The things that persons are taught to look for, they will see first or give attention to. Unfamiliar signs or events take more time to perceive.

**Experience** -- Past experiences play a major role in what a person gives attention to and perceives. The challenge is to provide students with the great variety of experiences most drivers would encounter on a hit or miss basis during the first year or two of driving. They need to build up, in an efficient way, an adequate store of information that will pay off in the near future.

If students are to identify hazards and clues four to twelve seconds ahead of the car, the commentary driving method is a must for practice and evaluation. After an explanation and discussion of the method, the teacher should give demonstrations using slides, films, and in-car experiences. In fact, a teacher should apply this technique, when practical, whenever he or she is behind the wheel for any reason. Teacher demonstrations, from either BTW or instructor side, should show in a realistic setting how drivers must use their eyes and identify the relevant clues and elements. The first practice of the method should be as an observer.

## PRACTICE DRIVING AREAS

Routes selected should provide plenty of opportunities for disciplined practice. When many varied experiences and general patterns are included, then transfer to similar situations can take place in the future.

It is best to find a number of arterial streets with a variety of roadway conditions and traffic. By driving up and down these streets, there should be plenty of highway system elements and situations for commentary driving to be utilized. The route can be programmed to some extent by identifying certain checkpoints where practice and evaluation with checklists can be conducted.

In small communities where there is a lack of varied situations, observers can be instructed to give "what if" clues for desired experiences. Also, plans can be made for double periods, so students can drive to a nearby community for experiences.

## SCANNING HABITS FOR IDENTIFICATION

To the eye habits learned in Lesson 4, students will add the scanning habits. This will help them get the big picture and keep their eyes moving. It is most important that students are continually projecting a twelve-second path of travel.

## TRAFFIC CONTROLS

In previous lessons, some attention has been given to signs, signals, and markings. Now, it's time for a more systematic application of the knowledge learned about controls. Students need practice in making comparisons and identifying differences. They need to recognize the situations where controls are applied.

The game of **Back Seat Bingo** can be used by observers. Different bingo sheets can be made up to meet the needs of a local community. If there are few controls, the matrix can be cut down to four by four. A plastic cover with a grease pencil can be provided for checking purposes and saving paper.

## HIGHWAY CONDITIONS

Highways differ in their design features, conditions, and settings. It is important that all these elements be identified well in advance. Here is a list of highway system elements that can help in the selection of routes and student guidance.

1. Areas of Reduced Traction
  - a. Design features -- flat, crowned, banked, curbing, bridges and culverts.
  - b. Surface conditions -- shaded areas, sewer covers, chuck holes, rough or bumpy, railroad tracks, and shoulder not level with pavement.
  - c. Surface materials -- sand, mud, wet leaves, ice, snow, frost, oil, tar, and spillage from trucks.
  - c. Weather -- Wind gusts and temperature changes.
2. Areas of Reduced Space to Sides
  - a. Roadway design -- width of pavement, width of shoulders, radius of corner curbing, and parking stalls.
  - b. Roadside features or obstacles -- trees, fencing, guardrails, embankments, snow banks, rock slides, and barricades.
  - c. Other traffic conditions -- oncoming line, intersecting, entering, double parked, large vehicles cornering, and pedestrians or bike riders nearby.
3. Areas of Reduced Visibility
  - a. Roadway design -- embankments, hillcrests, and curves.
  - b. Roadside obstacles -- shrubs, farm crops, buildings, and signs.
  - c. Other vehicles standing or maneuvering -- parking, left turns against traffic, backing, and cornering by large vehicles.
  - d. Weather conditions -- fog, smoke, snow, rain, and inside car windows steamed over.

*Enjoy yourself. If you don't enjoy what you teach, your students will enjoy it even less.*

## SIMULATION ACTIVITIES

Simulation films can provide a wide variety of traffic situations for the training and evaluation of the identification process. However, the methods for showing films and recording responses will need to be modified.

The first step for better utilization of the films is to select those sequences or segments that are related to the lesson objectives. Each segment showing a situation or two should be about 5-10 seconds in length. For this lesson, situations should deal primarily with traffic controls, highway conditions, or a combination of the two.

Once the film segments have been selected and the situations identified, three true-false questions should be written for each 5-10 second situation. For example, "The pavement was crowned. True or False?" "The shoulder is level with the pavement. True or False?" "This was an area of less space. True or False?"

Finally, a set of instructions should be formulated that is similar to the following:

1. Traffic situations will be shown on the screen for a period of 5-10 seconds. Before showing the situation, I will tell you what to search for in terms of traffic controls, highway conditions, and other users.
2. At end of the situation, the projector will be turned off and I will ask you three questions. For each question, you will check the answer on the sheet provided.
3. You are to assume you are driving and that the picture on the screen is what you see through your windshield. Do not guess. Either you saw it or you did not see it.
4. After one or more situations have been shown, we will review each of the situations and score the answers.

Before conducting such an activity, slides or segments of films should be shown to illustrate what to look for in each class of highway system elements. There will also be a need to clarify or define any special terminology to be used in the true-false questions.

Students can be asked to take turns using commentary driving with other segments of the films being used. The use of commentary driving with the films will provide practice in what to look for and what to practice commenting on when in the car.

For most of the situations, the students will score their own or each other's answer sheet. A few of the situations may be shown at the end of the class period for test purposes. These would be scored by the teacher and discussed at the beginning of the next laboratory period.

This method can be utilized with films in the classroom phase. Then, training can be transferred from one phase to another.

*The times demand that we learn more,  
learn it faster, remember it better  
and apply it more skillfully.*



## GUIDELINES FOR CONDUCTING LESSON 8

### IDENTIFYING OTHER USER ACTIONS

#### LESSON OBJECTIVES

1. For given traffic situations, students can identify the common errors to expect of other users.
2. As drivers or observers, students can identify ten seconds ahead the clues to probable actions of other users. They can identify those other users with a high probability for closing on the 12 second path of travel.

#### LEARNING ACTIVITIES

1. Read and discuss the information about the identification of other user actions. Explain the concept of conflict probabilities to your classmates.
2. As an observer and driver in the training car, use commentary driving and the checklists provided to indicate whether or not the 12 second path of travel is clear or not clear. Give evidence of your prediction.
3. Practice the identification and interpretation of other user actions when riding with relatives or friends. Discuss with the driver.

#### GENERAL APPROACHES

Beginning with this lesson, a major change in the focus of learning takes place. Up to this time, the student has been preoccupied primarily with the motor vehicle being driven and its interaction with the immediate roadway. Knowledge of traffic laws, vehicle capabilities, roadway conditions, and operating procedures have all been applied to learning how best to control the car and perform basic maneuvers. Now, these knowledges and performance abilities must be applied to the expected actions of other drivers. Students must begin to judge what effect traffic controls have on other user actions. They will need to judge or predict what other users are likely to do when faced with areas of reduced space or visibility. Are there clues the other user does not perceive the conditions? Are there clues to the other driver errors? These and other clues to closing movements must become the focus of attention.

To help guide in the search for such clues, a key question should be, "Is my intended path of travel clear or not clear?" To answer this question, students are taught to collect evidence for or against probable closing movements. The term "closing probabilities" was chosen because the parameters are more limited than such terms as possible, potential, or immediate. Probable is a concept that refers to things that are more apt to happen and therefore should command a driver's attention. It also provides a method of measuring the seriousness of a hazard, and provides the students with better evidence for arriving at a more reliable prediction. To be sure, such judgments and predictions do not lend themselves to one and only one answer, but a driver can arrive at the best prediction for the evidence available.

Over the years, a number of catchy slogans have been promoted in order to get our attention and help prevent collisions. "Expect the unexpected," is a current one that is supposed to serve as a guide to defensive driving. But, how does one go about searching and preparing for the unexpected? What kind of learning activities could be prescribed for it? In this lesson, a more relevant and measurable guide is provided-- "Search for other user errors." Such a guide recognizes that drivers can be expected to make errors. Students can then learn what errors to expect and what clues to

search for. They can be in a better state of readiness.

"Be alert; keep alert!" This is another guide that is used frequently without an explanation of how it is done. To be alert is to be watchful and to be in a state of readiness. It means a person is mentally attentive to a task. One of the problems in maintaining attention adequately to the driving task is the nature of the many highway system environments. The nature of some highway settings, at certain times, can lull one into letting the mind wander to personal problems or nearby scenery. This tendency may be overcome if habits of continuously scanning for certain roadway features in addition to frequent checks of mirrors and the dash are acquired. Also, a regular review of trip plans could be encouraged.

### PRACTICE DRIVING AREAS

An analysis should be made of the many local hazardous situations to determine the common elements that are present. This makes it possible to work for general patterns of behavior so that transfer to similar situations will take place in the future. Remember, perception and judgment depend to a great extent on previous experiences. So, check out areas where driver errors are more likely to take place. Routes should have moderate to heavy traffic in a variety of settings.

### IDENTIFICATION OF CLUES

Searching for clues can be an interesting and rewarding activity. It can be similar to detectives trying to discover things. A clue is an indication of the possible existence of something that could or may take place. It is a visible sign by which one finds out more information for making predictions. They may represent or stand for an idea, a motion, or a condition. Some clues may be easily observed and identified such as turn signals. Others, such as a shady spot on the pavement in winter, may be more difficult to discover and interpret. Hazards are not clues.

Commentary driving is the best method for identifying clues. All students can be involved and become motivated. For short periods of time, student observers can see which one is first to identify certain clues. Both students and teacher can check the progress being made with checklists.

After some practice identifying specific clues, the comments can become more general but still effective. Such comments can be made for the main areas of conflict such as, "Oncoming car OK, Parked cars on left OK, Pedestrians are OK, Intersecting car is OK, Following car OK, or Ongoing car is OK." These statements will indicate that the various clues have been checked out and that no evidence was found for a closing on the twelve-second path. Drivers can also be asked to state at the beginning of each block, "My path is clear," or "My path is not clear."

Students should be encouraged to use, when practical, the identification guides and commentary driving when riding with parents and friends. Try to obtain feedback on such an activity.

### SIMULATION ACTIVITIES

Commentary driving and the use of response sheets for selected segments of films are recommended just like the last lesson.

## GUIDELINES FOR CONDUCTING LESSON 9 POSITIONING AND TIMING AT INTERSECTIONS

### LESSON OBJECTIVES

1. For given turning situations, students can select the best communication.
2. For given multiple-lane intersections, students can select the best pathway for crossing and turning.
3. For given intersections with traffic present, students can select a proper gap in traffic for crossing and turning.

### LEARNING ACTIVITIES

1. Read the guides and steps to follow for crossing and turning at various types of intersections. Review the traffic laws for such situations. Then do the quiz.
2. On a diagram provided, draw in the pathway for making left turns at various types of intersections.
3. As a practice driver, demonstrate the proper positions and timing actions for crossing and turning at multiple-lane intersections.
4. As an observer in the driver education car, describe a "what if" situation for an intersection ahead. Here are examples: "What if the intersecting car does not stop?" "What if the turning car does not complete the turn?" The other observer or driver tells what he or she would do within a period of not more than five seconds. Take turns.
5. Find out the time it takes to cross or make turns at several different intersections. Compare these with your classmates and make a general rule.

### GENERAL APPROACHES

One of the primary objectives of driver education is that students are able to make wise and responsible traffic decisions on their own. If learners act on other persons' decisions, they do not learn how to make their own decisions. They learn only to carry out specific acts in specific situations. The challenge for the rest of the lessons is the cultivation of the students' own decision-making processes as well as the correct responses to traffic situations encountered. To this end, students are provided with a set of guides or plans of action that they can apply to the more complex driving situations.

This and the next two lessons are organized around the responses to common situations and the thought processes that apply. The traditional approach of presenting information under the environmental settings of city driving, highway driving, and expressway driving is inconsistent with the mental demands of the driving task. Most traffic factors or situations may arise at any time or any place on the roadway. It is because safe driving consists mostly of making proper responses, in terms of space and time, to the ever changing system situations to be encountered. So, students will need to be exposed to a wide variety of situations as often as practical.

### PRACTICE DRIVING AREAS

Route selection can begin by including some of the same situations used in the last two lessons. Then, it is well to progress to unfamiliar situations so that the

identification and decision-making habits can be integrated into one mental process. Crossing, turning onto, and turning off of busy through streets should lead to many of the situations which will require the desired responses. A variety of multiple-lane intersections are needed for the practice of positioning, gap selection, and left turns against traffic.

### POSITIONING AT INTERSECTIONS

Right turns in traffic create little problem, and students should have had considerable practice with them in the last two lessons. Therefore, this lesson should be devoted mostly to a variety of left turn situations which includes one-way streets, multiple-lane undivided streets, and divided highways when available. The Diagram for Left Turns activity can be conducted as a quiz in the back seat.

### TIMING AT INTERSECTIONS

Rather precise times for crossing and turning at intersections are recommended in this lesson. This is for the purpose of communication between teacher and students during the training period. Eventually, drivers develop their own judgments of space relationships, so they no longer have to rely on such a counting method except as a check up from time to time.

A form, *Time to Accelerate and Turn*, is provided if such an activity is desired. This can be completed as a backseat activity during class or in the family car. Students can also perform the activity while standing at an intersection. Conducting a survey of automobile speeds may help students with gap selection.

### SIMULATION ACTIVITIES

It is recommended that sequences which include left turn situations be selected from the films available. With such a collection, it is possible to teach gap selection and positioning as well as the various kinds of traffic light systems. Older films may be cut up and spliced to make a single-concept training film. Random encounters of these situations in films or BTW will not lead to a mastery of the maneuvers.

### DRIVING RANGE ACTIVITIES

A plan for developing a traffic mix at one or more intersections can provide for the practice of left turns against traffic.

*... "The more self-reliance is cultivated  
in the learning process, the more  
effective is the teaching."*

## GUIDELINES FOR CONDUCTING LESSON 10 MEETING AND FOLLOWING OTHER USERS

### LESSON OBJECTIVES

1. For given traffic situations, students can choose the best time or place to meet oncoming vehicles. They can select the best position and speed.
2. For given traffic situations requiring a change in position, students can select the best method of communication.
3. When following other vehicles, students can select the best speed and position.

### LEARNING ACTIVITIES

1. Read the guides and steps to follow for meeting and following and being followed. Review the traffic laws related to these actions. Do self-test.
2. As an observer in the training car, use the checklists and commentary driving to choose the best driver actions to take for given segments of the roadway.
3. As a practice driver, demonstrate the proper positions and timing actions to take for meeting and following other vehicles.
4. When riding with relatives, figure out what driver actions you would take for the traffic situation happening twelve seconds ahead. Compare with the experienced driver and discuss.

### GENERAL APPROACHES

This lesson can be combined with Lessons 7 and 8 if desired.

The guides to be applied in this lesson include many of the defensive driving principles and the last two steps of the "Smith System." The approach is to provide better structures and terminology that are amenable to practice routines and more objective measurement. It should be remembered that both the NSC Defensive Driving Course and the Smith System materials were developed for driver improvement.

The terminology has been simplified some by eliminating such terms as separate, compromise, minimize, and stabilize that were introduced with the IPDE process. The end result is **timing** and **positioning** or a combination of the two, so why should students have to learn the extra terms. Many such terms may be useful to curriculum specialist for development purposes, but they need not be necessary for training purposes. **Space margin** should be an easier concept to apply and measure than space cushion. The idea of planning ahead or being prepared is a much more positive approach than that of defending one's self from the errors of others and the changing road conditions. Hopefully, these next lessons can provide for a driver who is a copier rather than a defender, and an active seeker rather than a passive acceptor.

One of the key approaches used in the lesson, is the development of a set of guides that can be practiced in normal driving situations. Then, with only a slight modification, they can be utilized for responses to the unusual or critical traffic situations. A mind busy and curious with driving situations unfolding ahead will be more apt to remain alert for the more critical problems. For such an approach to be successful requires a careful selection of those situations that are truly representative of the broad range of situations most drivers will encounter in the future. The number of unfamiliar situations to be faced should be minimal. Repeated practice and generalizations will enhance transfer of training to the future.

## PRACTICE DRIVING AREAS

Parts of the routes selected for Lesson 7 may be appropriate to begin with since there is a need to have areas of less space, less visibility, and less traction included. Students have already identified such conditions, so the focus of learning can be on the proper responses to take. Instead of crossing and turning onto and off of multiple-lane streets, it will be best to drive on such streets for meeting, following, and being followed practice. Two-lane rural highways with plenty of hills and curves with traffic should also be selected.

It is suggested that routes be programmed so that a number of checkpoints can be located. Then, a map of the route can be drawn for the purpose of standardization. Such a route could then be used for evaluating group progress and the improvement of instruction.

## MEETING ONCOMING VEHICLES

Timing situations for oncoming cars can begin in residential areas or streets where parked cars make for reduced space situations. The simpler the situation to begin with, the better the concepts can be understood and applied. A Checklist for Timing Situations is provided for backseat observer participation. Be on the lookout for situations where an increase in speed is the proper response rather than the usual slow-down response.

## FOLLOWING OTHER VEHICLES

This may be a good time to use the Checklist for 2-4-12 Timed Distances again. Also, have observers use the Checklist for Responses to Conflict Probabilities.

Students may be asked to use commentary driving to explain their reason for lane selection and positioning within a lane. These are examples: "There are no cars in my blindspot"...."Will need to adjust speed to stay out of ongoing car's blindspot".... "Chose left lane to avoid parking cars"...."Moving to side of lane for better visibility"...."My following distance is more than two seconds"...." space margins on both sides."

## ADJUSTING SPEED TO CONDITIONS

The main idea in the basic speed law is that a person should always drive at a reasonable and proper speed for conditions or that which does not endanger the safety of any person. But, what is reasonable and proper for conditions? Hopefully, an application of the lesson guidelines will provide the answer.

## SIMULATION ACTIVITIES

Simulation films can provide for some of the best training in positioning and timing. It would be best to choose those film segments that include situations not available on the BTW routes. Commentary driving and the use of response answer sheets is again recommended.

*One authority has said,  
"Children walk into their teens.  
They drive into adulthood."*

## GUIDELINES FOR CONDUCTING LESSON 11 MERGING AND EXITING AT INTERCHANGES

### LESSON OBJECTIVES

1. For a given route and destination, students can select the proper ramp for entering a freeway. They can choose the best gap for merging onto a freeway or expressway.
2. For a given route and destination, students can select the proper exit from a freeway. They can follow the proper procedures for exiting from the expressway or freeway.

### LEARNING ACTIVITIES

1. Read the guides and steps to follow for merging and exiting at interchanges. Review the traffic laws related to these maneuvers. Complete the quiz.
2. On diagrams of interchanges, indicate the pathway to follow for given routes and directions.
3. As a practice driver, demonstrate proper procedures for merging and exiting at interchanges.

### GENERAL APPROACHES

Except for interchanges, driving on freeways or controlled access highways is little different than driving on other divided or undivided multiple-lane highways. Therefore, the main purpose of this lesson is to provide practice getting on and off of roadways at interchanges. In a practice area where interchanges are some distance apart, other activities should be included.

The focus of learning is on gap selection and speed changes at higher speeds than previously experienced. The forced downshift for rapid acceleration may be introduced as an additional activity. Also, procedures for downshifting with the selector lever can be practiced when convenient and traffic is light. However, students should understand that such downshifting actions are not to be considered a part of the normal merging and exiting maneuvers. It is just a matter of taking advantage of straight stretches of higher speed highways.

Once on the expressway, and traffic is sufficient, additional practice can be gained with following and being followed situations. Students can be required to complete the self test before BTW practice begins.

### PRACTICE DRIVING AREAS

The ideal area would be to have at least one diamond interchange and one clover-leaf interchange a short distance apart. A belt line road around a city usually makes for a suitable practice area. Where no interchanges are available in the immediate community, consideration should be given to scheduling of lessons at a time when trips can be made to a nearby area with interchanges. Otherwise, suggestions can be made to parents for conducting such practice.

## MERGING ONTO AN EXPRESSWAY

As the car is being driven to the area by the first student, have observers review and discuss the proper procedures. Some students may be reluctant, at first, to accelerate enough, so considerable coaching may be required. It is best to give the route number and the name of a town headed for so students can get practice interpreting guide signs and selecting the proper ramp to enter for a given destination.

At a cloverleaf interchange, the student driver can first be directed to drive around all four ramps before merging onto the expressway or freeway. This way the student can get used to the ramp configuration and the procedures to follow. It can serve as a kind of drill. It also shows students how they can turn around to go the opposite direction on a freeway.

## EXITING FROM AN EXPRESSWAY

Have students assume they are on a trip. Then, give directions such as, "We are heading north and want to go west on route 40," or "We want to go west to a place called Metropolis." This requires an interpretation of the advance guide signs that provide information about exits and the directions to various places. They must recognize that at cloverleaf interchanges, there will be "A" and "B" exits with the exit numbers.

After giving the directions, have students use commentary driving to explain what actions they plan to take in response to each of the guide signs observed. This can assure the teacher that correct responses will be taken at the proper time and proper place. Too much deceleration before reaching the speed change lane is a common error to guard against. More collisions do occur during exiting than during merging.

## SIMULATION ACTIVITIES

Most of the situations on simulation films deal with driving on a freeway rather than entering and exiting. The situations involving the interchanges can be repeated by reversing that segment of the film two or three times so that the procedures for entering and exiting are mastered. Drills with transparencies or filmstrips can be conducted.

## DRIVING RANGE ACTIVITIES

Exercises for exiting and merging can be set up along the perimeter of the range. Speed and gap selections are not realistic, but the procedures can be learned easily and well.

*... "Evaluation is most conducive to learning when it provides for and encourages self-evaluation."*



## GUIDELINES FOR CONDUCTING LESSON 12 PASSING ONGOING VEHICLES

### LESSON OBJECTIVE

For given passing situations, students can demonstrate the proper steps for passing ongoing vehicles safely.

### LEARNING ACTIVITIES

1. Study the guides and steps to follow for passing ongoing vehicles. Review traffic laws that apply to these maneuvers.
2. As an observer in a car, practice estimating how far away an oncoming car should be for the "start to pass." Pick a time when you think it would be safe to pass. Then count how many seconds the oncoming car was from the time you picked.
3. As a driver, practice the passing maneuver on a four lane highway. Wait behind an ongoing car in your lane until a car approaches in one of the opposite lanes. Then, pass at the last second you think it would be safe to. Decide if you could have made the pass safely on a two-lane highway.
4. As a practice driver, demonstrate proper procedures for passing an ongoing vehicle on a two-lane highway.

### GENERAL APPROACHES

The passing maneuver on a two-lane highway is one of the most hazardous. The decision to pass or not to pass is dependent upon the judgment of space, time, and acceleration capability of one's motor vehicle. It also depends on the ~~motion~~ of other user actions and roadway conditions.

Unfortunately, it is difficult for students to practice this maneuver, in realistic settings, as a part of many driver education programs. This is due primarily to the fact that most vehicles on highways today are traveling at about or above the speed limits. When there are two or more driver education cars and teachers available for a class period, teachers should plan to have the student drivers pass each other.

Before two teachers conduct the passing exercises, they should establish rules as to speed, following distance, passing procedures, emergency procedure, use of passing gear, responsibilities of the lead car, and concern for traffic flow. Each student should be coached through at least the first pass.

In the lesson, the procedures are classified into three major categories for ease of remembering and application. The procedures can be practiced, in a simulated way, on a straight stretch of roadway with no other cars nearby. During such an exercise, students can be asked to use commentary driving to indicate the steps being followed.

Activities two and three can be conducted to help judge the timing factors. It is best to begin such activities on four-lane divided highways. They could be done as a part of the last lesson on interchanges. Students also can be encouraged to practice similar activities as a passenger in the family car.

Beginning students can be expected to focus too much attention of the car being passed, and to cut back too soon to the right lane. Teachers must be alert for the tendency of some students to slow down slightly during the return steps.

## PRACTICE DRIVING AREAS

For this lesson, straight stretches of highway, with good visibility, should be selected. When available, include four-lane undivided or divided highways as well as two-lane rural highways. Be alert for soft or narrow shoulders. Areas for the off-road recovery exercise may be included.

## WRITTEN QUIZZES

A passing quiz can be administered to observers on the way to the practice area. Questions on the applicable laws could be included.

## SIMULATION ACTIVITIES

Passing drills can be conducted without the use of films since the focus of learning this maneuver on simulators is on procedures. A number of passing and being passed situations may be found on at least two films.

## DRIVING RANGE ACTIVITIES

The passing procedures can be learned easily on the perimeter of most driving ranges.

## STEPS FOR PASSING QUIZ

### STEPS

### INDICATE CORRECT ORDER

A. Check for front end in mirror.

#### PREPARE TO PASS

B. Continue checks ahead.

1. C (given)

C. Start well back.

2.       

D. Signal right.

3.       

E. Check mirrors. (and drift out)

4.       

F. Pick up speed.

5.       

G. Change lanes to right.

#### OVERTAKE ONGOING CAR

H. Concentrate on path ahead.

6. B (given)

I. Check ahead for safe distance.

7.       

J. Cancel signal and check speed.

8.       

K. Change lanes. (to pass)

9.       

L. Check for following cars.

#### RETURN TO RIGHT LANE

M. Signal your intentions.

10. A (given)

List three reasons for starting to pass from "well back".

11.       

12.       

13.

## GUIDELINES FOR CONDUCTING LESSON 13

### PARALLEL PARKING

#### LESSON OBJECTIVE

In urban areas, students can follow the proper procedures for parking parallel within twelve inches of the curb and between two other parked cars.

#### LEARNING ACTIVITIES

1. Read and learn the procedures to follow for parking parallel in the various situations. Review the traffic laws that apply.
2. Obtain a toy wagon and set up parking stalls with boxes. Practice parking the wagon. Use a child's small toy car on a table top to learn the various points reference. A riding type lawn mower or garden tractor may be used for practice when available.
3. Find a residential area with level streets where there are a few parked cars along the curb. Pull up parallel by one car at a time. Practice parking behind each car. Progress to other areas for parking between two cars. Try both sides of one-way streets.

#### GENERAL APPROACHES

Parallel parking is like a lane change in reverse. So, the basic skills should have been learned. Therefore, the focus of attention can be on the sequence of steps and the main points of reference that help one judge proper positioning. Most difficult is probably the coordination of steering wheel actions with vehicle movements.

There are a number of subtle variations in this parking maneuver that need to be identified and included for practice when time permits. For example, the roadway surface may be level or crowned. The area may be uphill or downhill, and the curb may be high. There may be fixed obstacles along the curbing. The vehicle that one plans to park behind may be narrower, wider, longer, or shorter than the training car. This vehicle also may be close or some distance away from the curb. All these factors need to be taken into account since they affect positioning choices. When practical, each student can practice one or more of the variations. Then, either as drivers or observers, they will gain an idea of how to compensate for the different situations.

Time can be saved by a model demonstration by the teacher BTW. This gives the students a better idea of when and how much to steer. It can clearly show how important the relationship is between steering wheel actions and the movement of the car. Also, students can note the need for a constant scanning of all four corners of the car. Instead of left and right turns, it is best to use such terms as "turn away from curb" and "turn toward curb." These can be applied to one-way streets.

A teacher must pay strict attention to the actions of the driver's feet and hands as well as what is going on around the car.

#### PRACTICE DRIVING AREAS

It is best to find a residential area where a few single cars are parked. Then, areas should be selected close to the downtown district where stalls are marked. When available, include one-way streets. Traffic cones may be helpful.

## GUIDELINES FOR CONDUCTING LESSON 14

### DRIVING AT NIGHT

#### LESSON OBJECTIVES

1. For a given vehicle, students can check to see if the high and low beam lights are aimed properly.
2. When driving at night, students can select the proper headlight beam for the situation. They can meet oncoming vehicles without becoming blinded.
3. When driving at night, students can tell if they are overdriving their headlights.

#### LEARNING ACTIVITIES

1. Use a stop watch to find out how long it takes a person's eyes to adapt to darkness after coming out of a brightly lighted building.
2. Practice driving your family car on streets and highways you have driven on during the day. Note the differences.
3. While driving, practice switching the headlights back and forth between low and high beam. Measure the farthest distance you can see ahead with both high beam and low beam lights.
4. When facing other cars at night, practice scanning your side of the highway without becoming temporarily blinded. See if you can tell how far the side of the oncoming car is from the center line.

#### GENERAL APPROACHES

Everyone knows that there is reduced visibility on streets and highways at night. Then, why do so many people fail to make proper adjustments in their driving at night. It must be that drivers think headlights and street lights make up for the difference in visibility. But, even on dark rural highways and poorly lighted residential areas, people continue to drive at the speed limit. How can beginning drivers be made more aware of the differences in visibility at night? How can they be persuaded to make the necessary adjustments in driving?

Teachers can try to make their students better aware of the real differences at night by first selecting routes that have been used during daytime practice sessions. Students are asked then to use commentary driving to identify any differences. Can they see under parked cars as well? Can they see signs and signals as well a block ahead? Can they see down side streets as well? How well do they see pedestrians in dark clothing? Are all the familiar landmarks still visible? The same exercise is continued on two-lane rural highways.

The best approach to the speed problem is to make sure students understand fully what is involved in overdriving one's headlights. Each student should have the experience of counting out the seconds of distance both the high and low beams light up the roadway ahead.

For first hand experience with fatigue, students will need help from their parents. In fact, parents will need to provide their teenagers with most of the practice in driving at night. This is because most public and private school programs do not provide lessons in night driving. So, it should be up to teachers to persuade parents that such supervised practice is very important before teenagers are allowed to drive solo.

## GUIDELINES FOR CONDUCTING LESSON 15

### DRIVING A CAR WITH A CLUTCH

#### LESSON OBJECTIVES

1. Students can coordinate the proper use of the clutch, gearshift, and gas pedal to move a car forward and backward without jerking or stalling. They can start up on an upgrade without letting the car roll backward.
2. Students can stop a manual transmission car smoothly from all gear positions by using the correct steps. They can secure the car with the correct steps.
3. In a manual transmission car, students can downshift smoothly from one gear to another in the minimum amount of time.
4. For given roadway conditions, students can decide in advance the correct gear positions.

#### LEARNING ACTIVITIES

1. Read and learn the proper steps in correct order for starting the engine, moving the car, shifting up, downshifting, and stopping.
2. On a level parking lot, practice starting the engine and securing the car for parking. While the engine is idling and the clutch is down, practice putting the gearshift lever in all positions. Repeat until you can do it without looking at your hands. Then, practice creeping the car in first and reverse by moving the clutch slightly while holding the gas pedal at a steady idle.
3. On a straight and level stretch of road, practice shifting from first gear to the other forward gears. Practice stopping from each forward gear position.
4. On a side street with a slight upgrade, practice starting and stopping in first gear without using the park brake.
5. On straight stretches of roadway, practice downshifting until you become competent. Listen to the sounds for various positions.
6. Practice downshifting to the correct gear and at the proper time for various turning situations. Include uphill and downhill situations.

#### GENERAL APPROACHES

First, it is best for students to understand what they will be doing and why. What the gearshift is and does is the easiest to learn since it functions like the selector lever. The clutch is described as a connector. It connects and disconnects the engine power to the gear box. It may be compared to an electric switch which turns on and off the electric power to run a motor. A switch has contact points to start the power flowing. And, it is the contact point of the clutch that makes the connection with the power source or engine.

Once there is a general knowledge of what must be done, the focus of attention is on coordination and timing. When and how much action to take is a key to the efficient and smooth operation of the manual transmission. This coordination and timing takes much repetition and patience. So, a series of step-by-step practice exercises must be set up and conducted. There can be no substitute.

Before the exercises or drills are conducted, the teacher should give a model demonstration of starting, stopping, and shifting to all gears. Then, have the student start the engine, practice shifting to all gear positions with the clutch down, and shut off the engine before moving. This is repeated until some degree of confidence is noted. Next, the car is moved forward a few feet and stopped. Then, the car is moved backward a few feet and stopped. Other drills are conducted in a similar fashion until the student has some degree of skill in using all forward gear positions. Finally, the student practices a series of starts and stops on an upgrade.

It is best to begin the practice of downshifting on level roadways. Except for shifting from second to first, most students will be able to master the mechanics of downshifting, while moving, in a rather short period of time. But, drills will be needed for downshifting to first or low.

Once students become proficient in the physical part of downshifting, they should be given plenty of opportunity to practice downshifting in each of the situations described in the manual. This will require a knowledge of when to shift and what gear to use.

The key to deciding when to downshift is a good knowledge of the speed ranges for each gear position. For most small cars, the rule of thumb is as follows: use low for speeds under twenty miles per hour, second gear for the twenties, third gear for the thirties, and fourth gear for the forties. Engine noise and vibration will also be a clue as to the need for downshifting.

As with any car used in a driver training program, the owner's manual should be reviewed for any specific procedures that are recommended for that special model and make.

## **PRACTICE DRIVING AREAS**

An off-street area should be selected for beginning drivers who have not driven an automatic transmission automobile. For others, the lesson can begin on a level street or rural blacktop with little or no traffic. Then, a long but gradual upgrade will be needed. A straight stretch of level roadway is best for the initial practice of downshifting. Finally, areas should be selected that have a variety of traffic situations and roadway conditions.

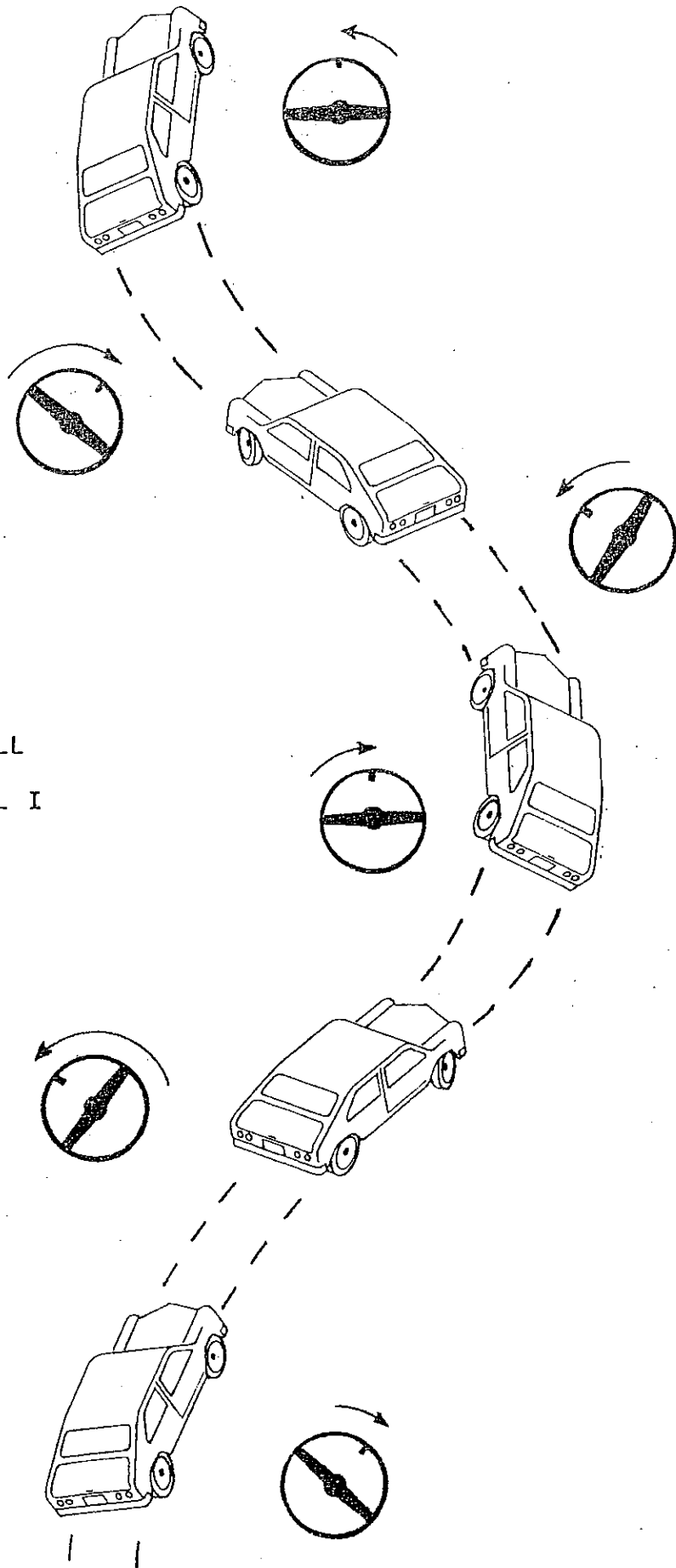
## APPENDIX

### RECORD FORMS AND CHECKLISTS

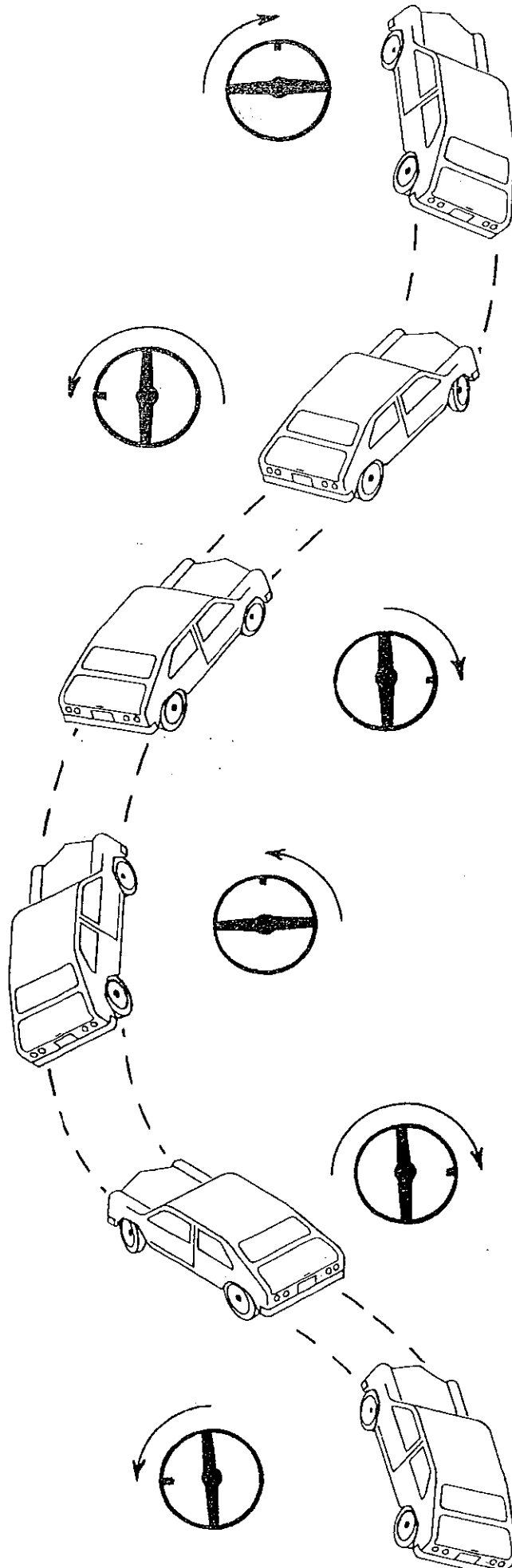
- A SIMULATOR DRILL LATERAL CONTROL I
- B SIMULATOR DRILL LATERAL CONTROL II
- C FAMILY CAR CHECKOUT
- D STARTING PROCEDURES TEST
- E CHECKLIST FOR CAR CONTROL
- F CHECKLIST FOR BASIC MANEUVERS
- G CHECKLIST FOR 2-4-12 TIMED DISTANCES
- H OBSERVATION CHECK SHEET FOR EYE HABITS
- I BACK SEAT BINGO
- J CHECKLIST FOR IDENTIFICATION OF REDUCED AREAS
- K CHECKLIST FOR CONFLICT PROBABILITIES
- L CHECKLIST FOR TIMING SITUATIONS
- M CHECKLIST FOR CHOOSING BEST PATHWAY
- N DIAGRAM FOR LEFT TURNS
- O TIME TO ACCELERATE AND TURN
- P BTW DRIVER COMPETENCY RECORD
- Q DRIVER EDUCATION PERMANENT RECORD
- R BTW TEACHER SELF EVALUATION
- S ANSWER SHEET FOR THE SELF TESTS
- T ANSWER KEY TO THE SELF TESTS
- 1 - 12 SELF TESTS

Permission is hereby granted by the publisher for these checklists to be duplicated for use in the local driver education programs.

SIMULATOR DRILL  
LATERAL CONTROL I  
SLIGHT TURN







SIMULATOR DRILL  
LATERAL CONTROL II  
HALF TURN

## FAMILY CAR CHECKOUT

## OUTSIDE CAR CHECKS

Fluid leaks on garage floor \_\_\_\_\_

Tire wear: Even\_\_\_\_; Outer edges\_\_\_\_; Center\_\_\_\_

Tire tread: Good\_\_\_\_; Worn\_\_\_\_; Smooth\_\_\_\_

Tire pressure: Low\_\_\_\_; High\_\_\_\_; OK\_\_\_\_

## UNDER THE HOOD CHECKS

Crankcase Oil Level: Full\_\_\_\_; Down some\_\_\_\_; Add\_\_\_\_

Radiator Fluid Level: Full\_\_\_\_; Down some\_\_\_\_; Add\_\_\_\_

Windshield washer: Full\_\_\_\_; Down some\_\_\_\_; Add\_\_\_\_

Drive belts: OK\_\_\_\_; Loose\_\_\_\_; Cracked\_\_\_\_

Battery water level: OK\_\_\_\_; Low\_\_\_\_; Cables corroded\_\_\_\_

Transmission fluid level: Full\_\_\_\_; Down some\_\_\_\_; Add\_\_\_\_

## STARTING HABITS

Pre-start adjustments\_\_\_\_; Start engine and idle\_\_\_\_;

Shut off engine and secure\_\_\_\_; Adjust sun visors\_\_\_\_;

Operate light switches\_\_\_\_; Operate windshield wipers\_\_\_\_;

Operate heater and air conditioning controls \_\_\_\_.

## OWNERS MANUAL INFORMATION

Recommended starting procedures for cold engine ? \_\_\_\_\_

Recommended starting procedure for flooded engine ? \_\_\_\_\_

Maximum speed for "D1" or Second\_\_\_\_; "D2" or Low\_\_\_\_ ?

What precautions are needed when shifting from "D" to "L" ?

What is recommended tire pressure? Front\_\_\_\_; Rear\_\_\_\_.

Date:\_\_\_\_\_ Your Signature\_\_\_\_\_

Parent's Signature\_\_\_\_\_

## STARTING PROCEDURES TEST

Instructions: Please number the following procedures in the correct order. Assume you are in an automatic transmission car.

STARTING COLD ENGINE

- |  |  |
|--|--|
| _____ Set choke with gas pedal.              | <u>1</u> _____ Check selector lever for "P". |
| _____ Turn key to start.                     | _____ Read gauges.                           |
| _____ Turn key to "ON" and check the gauges. | _____ Change fast idle to normal idle.       |

MOVING CAR FORWARD - ENGINE STARTED

- |                                    |                        |
|------------------------------------|------------------------|
| _____ Release park brake.          | _____ Press gas pedal. |
| _____ Selector lever to "D".       | _____ Foot off brake.  |
| <u>1</u> _____ Foot presses brake. |                        |

STOP AND SECURE CAR

- |                                   |                              |
|-----------------------------------|------------------------------|
| <u>1</u> _____ Release gas pedal. | _____ Turn key to "Lock".    |
| _____ Set park brake.             | _____ Selector lever to "P". |
| _____ Brake to stop.              |                              |

MOVING CAR BACKWARD - ENGINE STARTED

- |                                    |                           |
|------------------------------------|---------------------------|
| <u>1</u> _____ Release park brake. | _____ Foot presses brake. |
| _____ Selector lever to "R".       | _____ Look to rear.       |
| _____ Foot off brake.              | _____ Press gas pedal.    |

## CHECKLIST FOR CAR CONTROL

Driver \_\_\_\_\_ Observer \_\_\_\_\_

Instructions: The observer (co-pilot) calls out the procedures to the driver (pilot). Driver then carries out steps or inspects systems and says "check" if AOK. After practicing the steps this way twice, the driver should be able to perform without assistance and error. The observer places a (+) in space provided when driver is correct. Place a (✓) in space provided when a step is omitted or is out of order.

PRE-START INSIDE

\_\_\_\_\_ Lock doors  
 \_\_\_\_\_ Key in ignition  
 \_\_\_\_\_ Adjust seat  
 \_\_\_\_\_ Adjust mirrors  
 \_\_\_\_\_ Fasten safety belts

CREEP CAR FORWARD & STOP

\_\_\_\_\_ Press foot brake  
 \_\_\_\_\_ Selector to "D"  
 \_\_\_\_\_ Park brake off  
 \_\_\_\_\_ Foot to gas pedal  
 \_\_\_\_\_ Brake to smooth stop

SECURING CAR

\_\_\_\_\_ Complete stop  
 \_\_\_\_\_ Selector to "P"  
 \_\_\_\_\_ Accessories off  
 \_\_\_\_\_ Key to lock  
 \_\_\_\_\_ Set park brake

STEERING CONTROL DRILL

\_\_\_\_\_ Slight L-turn & straight  
 \_\_\_\_\_ Slight R-turn & straight  
 \_\_\_\_\_ Creep backward  
 \_\_\_\_\_ Half L-turn & straighten  
 \_\_\_\_\_ Half R-turn & straighten  
 \_\_\_\_\_ Creep backward  
 \_\_\_\_\_ Full L-turn & straighten  
 \_\_\_\_\_ Full R-turn & straighten

START ENGINE AND IDLE

\_\_\_\_\_ Set choke if cold  
 \_\_\_\_\_ Key to "On" & check gauges  
 \_\_\_\_\_ Key to "Start" & release  
 \_\_\_\_\_ Read gauges  
 \_\_\_\_\_ Set for normal idle

CREEP CAR BACKWARD & STOP

\_\_\_\_\_ Press foot brake  
 \_\_\_\_\_ Selector to "R"  
 \_\_\_\_\_ Left hand to top  
 \_\_\_\_\_ Look to rear  
 \_\_\_\_\_ Foot to gas pedal  
 \_\_\_\_\_ Brake to smooth stop

QUICK STOPS AND STARTS

\_\_\_\_\_ Creep forward & hard brake  
 \_\_\_\_\_ Creep backward & hard brake  
 \_\_\_\_\_ Quick speed-up & smooth stop

LANE POSITIONING

\_\_\_\_\_ Center of lane - 200 feet  
 \_\_\_\_\_ Check mirror & centered  
 \_\_\_\_\_ Check gauges & centered  
 \_\_\_\_\_ Distance from parked cars  
 \_\_\_\_\_ Distance from oncoming cars

SAFETY SWITCHES WHEN MOVING

\_\_\_ Horn; \_\_\_ 4-way flasher; \_\_\_ Park lights  
 \_\_\_ Bright-Limmers; \_\_\_ Defroster; \_\_\_ Wipers

## CHECKLIST FOR BASIC MANEUVERS

Driver \_\_\_\_\_ Observer \_\_\_\_\_

Instructions: An observer uses this checksheet to help the driver remember the procedures. After two practices with help, the driver should perform without help. The observer places a (+) on the space provided when driver is correct. Place a (✓) in space when a step is omitted or isn't in order.

ENTERING TRAFFIC

\_\_\_\_ Signals  
 \_\_\_\_ Checks mirrors  
 \_\_\_\_ Checks blindspot  
 \_\_\_\_ Gap in traffic  
 \_\_\_\_ Proper steering  
 \_\_\_\_ Smooth speed-up  
 \_\_\_\_ Cancel signal

LEFT TURNS

\_\_\_\_ Checks mirrors  
 \_\_\_\_ Signals 100 feet  
 \_\_\_\_ Proper pathway  
 \_\_\_\_ Scans corners  
 \_\_\_\_ Proper speed  
 \_\_\_\_ Start of steering  
 \_\_\_\_ Looks thru turn  
 \_\_\_\_ Straighten wheels  
 \_\_\_\_ Proper pathway

LANE CHANGE TO LEFT

\_\_\_\_ Signals  
 \_\_\_\_ Check roadway  
 \_\_\_\_ Check traffic  
 \_\_\_\_ Check mirrors  
 \_\_\_\_ Gap selection  
 \_\_\_\_ Check blindspot  
 \_\_\_\_ Smooth speed up  
 \_\_\_\_ Proper steering  
 \_\_\_\_ Cancel signal

LEAVING TRAFFIC

\_\_\_\_ Signals  
 \_\_\_\_ Checks mirrors  
 \_\_\_\_ Flash brake lights  
 \_\_\_\_ Checks blindspot  
 \_\_\_\_ Distance to curb  
 \_\_\_\_ Set wheels uphill  
 \_\_\_\_ Set wheels downhill

RIGHT TURNS

\_\_\_\_ Checks mirrors  
 \_\_\_\_ Signals 100 feet  
 \_\_\_\_ Proper pathway  
 \_\_\_\_ Scans corners  
 \_\_\_\_ Proper speed  
 \_\_\_\_ Start of steering  
 \_\_\_\_ Looks thru turn  
 \_\_\_\_ Straighten wheels  
 \_\_\_\_ Proper pathway

LANE CHANGE TO RIGHT

\_\_\_\_ Signals  
 \_\_\_\_ Check roadway  
 \_\_\_\_ Check traffic  
 \_\_\_\_ Checks mirror  
 \_\_\_\_ Gap selection  
 \_\_\_\_ Check blindspot  
 \_\_\_\_ Smooth speed up  
 \_\_\_\_ Proper steering  
 \_\_\_\_ Cancel signal

## CHECKLIST FOR 2--4--12 TIMED DISTANCES

GENERAL INSTRUCTIONS-- You will practice at least five trials for each of the timed distances. You will also be asked to be the timer-recorder when you are not practicing. The average time of the five trials will be your score. A stopwatch or wristwatch will be used as the timing device.

TWO-SECOND FOLLOWING DISTANCE -- The one practicing this timed distance will verbally identify a fixed checkpoint where the counting is to start. One can practice as a driver or observer. The one timing and recording will record the number of seconds for each trial.

## FOUR-SECOND STOPPING ZONE &amp; TWELVE SECOND VISUAL LEAD --

The person practicing will:

- Pick a fixed object along the roadside which is thought to be four or twelve seconds ahead of the car.
- When the object is picked, tell the timer, "START".
- When the object is passed tell the timer, "STOP".

The person recording and timing will:

- Start and stop the watch when your classmate tells you.
- Read the time, write it in the space provided, and tell the time to your classmate.

T R I A L	NAME OF DRIVER			NAME OF DRIVER			NAME OF DRIVER		
	2	4	12	2	4	12	2	4	12
1									
2									
3									
4									
5									
Total									
Average									

## OBSERVATION CHECK SHEET FOR EYE HABITS

Driver \_\_\_\_\_ Observer \_\_\_\_\_

Instructions: Each square represents time or distance traveled. Use one block in an urban area and one minute in other areas. For those eye checks noted, mark "I" for inside mirror checks; "O" for outside mirror checks; and "+" for dash checks. If no eye checks are observed for the given time or distance, cross out the square.

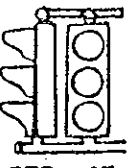

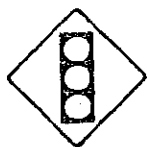

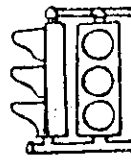





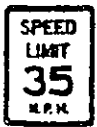









1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31	32	33	34	35
36	37	38	39	40	41	42
43	44	45	46	47	48	49

Totals: "I" \_\_\_\_\_; "O" \_\_\_\_\_; "+" \_\_\_\_\_; Grand Total \_\_\_\_\_

Rates: Checks per city block \_\_\_\_\_; Checks per minute \_\_\_\_\_

## BACK SEAT BINGO

INSTRUCTIONS -- The first backseat observer to identify a traffic control should call it out. Then that control should be crossed out on the sheet. Other rules are just like bingo.

 RED ON				 GREEN ON
	TWO WAY STOP		FOUR WAY STOP	
	JCT	 ANY NO-NO		
	ANY SOLID YELLOW LINE		ANY SOLID WHITE LINE	
				



## CHECKLIST FOR IDENTIFICATION OF REDUCED AREAS

OBSERVER OR DRIVER INSTRUCTIONS -- In advance of each block in an urban district or a given segment of roadway in a rural district, you should use commentary driving to identify areas of reduced visibility, reduced space to sides, and reduced traction. When there is time, comment on the type of change and the clues to change. The "sight" column stands for sight distance ahead. The "field" column stands for field of view to the sides.

RECORDER INSTRUCTIONS -- Put a "X" in the proper column as selected. Then after a discussion with the teacher or other students, score (C) for correct and (✓) for incorrect.

T R I A L	V I S I B I L I T Y				S P A C E			T R A C T I O N			S C O R E	N A M E		
	S I G H T		F I E L D		C H A N G E S			C H A N G E S						
	Yes	No	Yes	No	Less	More	Same	Less	More	Same				
1														
2														
3														
4														
5														
1														
2														
3														
4														
5														
1														
2														
3														
4														
5														

*Conduct*

## CHECKLIST FOR CLOSING PROBABILITIES

OBSERVER OR DRIVER INSTRUCTIONS -- In advance of each block or segment of roadway, you will orally indicate whether the path ahead is "CLEAR" or "NOT CLEAR". For each not clear situation, you will tell when and where the hazards with high closing will probably close. You will have a choice of three closing locations that make up part of the intended pathway -- (1) between two and four seconds, (2) between four and twelve seconds, and (3) over twelve seconds.

RECORDER INSTRUCTIONS -- Check (X) in the proper column for the closing locations picked for "NOT CLEAR" situations. Then after a discussion with the teacher and other students, score (C) for correct and (✓) for incorrect.

T R I A L	CLOSING LOCATION			S C O R E	N A M E
	2-4	4-12	Over 12		
1					
2					
3					
4					
1					
2					
3					
4					
1					
2					
3					
4					

## CHECKLIST FOR TIMING SITUATIONS

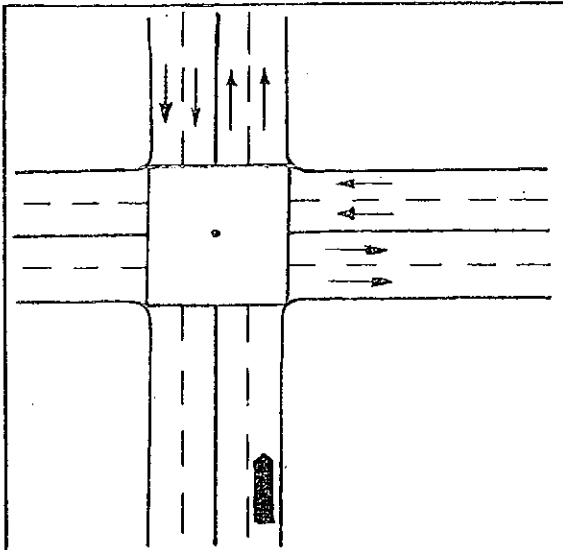
**DRIVER INSTRUCTIONS** -- Use the commentary driving method to identify where you would meet an oncoming car at your present speed. Then decide where best to meet and adjust speed.

**OBSERVER INSTRUCTIONS** -- Check the speed change you see the driver make. Then decide whether the driver chose a better place to meet the oncoming car in terms of space, visibility, or traction. Score (C) for correct and (✓) for incorrect.

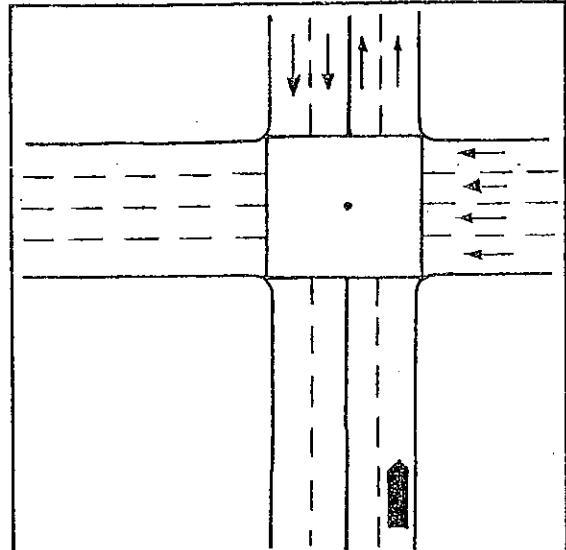
T R I A L	SPEED CHANGE			BETTER PLACE		S C O R E	N A M E
	INC	SAME	DEC	YES	NO		
1							
2							
3							
4							
5							
1							
2							
3							
4							
5							
1							
2							
3							
4							
5							

# DIAGRAM FOR LEFT TURNS

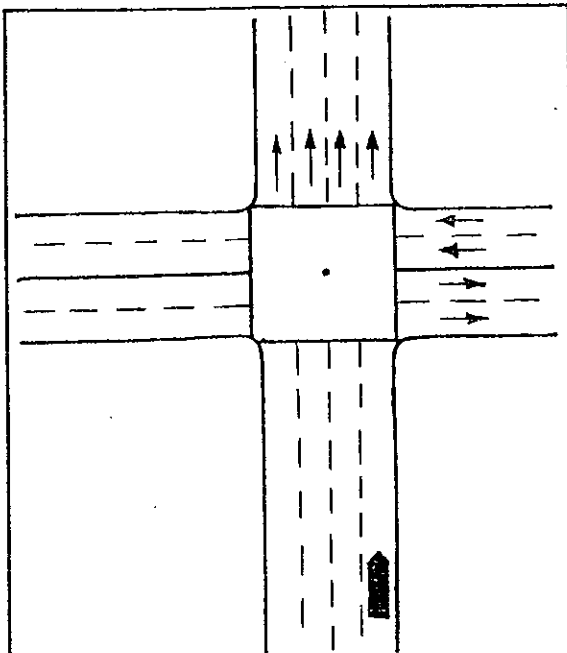
INSTRUCTIONS -- Start with the front of the car shown and draw a line to represent the path your car should follow in making a proper left turn. Assume there are no parked cars. At the bottom, write a general rule to follow when selecting the lanes for making any left turns.



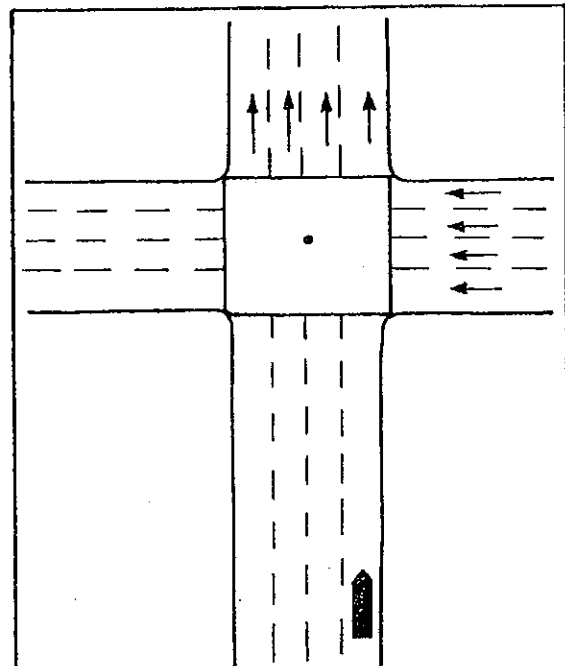
A. From a two-way street into a two-way street.



B. From a two-way street into a one-way street.



C. From a one-way street into a two-way street.



D. From a one-way street into a one-way street.

## CHECKLIST FOR CHOOSING BEST PATHWAY

DRIVER INSTRUCTIONS -- Use commentary driving method to identify situations that should require a response in positioning. Then choose and make your response.

OBSERVER INSTRUCTIONS -- Record the choices taken by the driver. Then after a discussion, score (C) for correct and (✓) for incorrect.

## CODES USED:

00 : Center of lane or pathway.

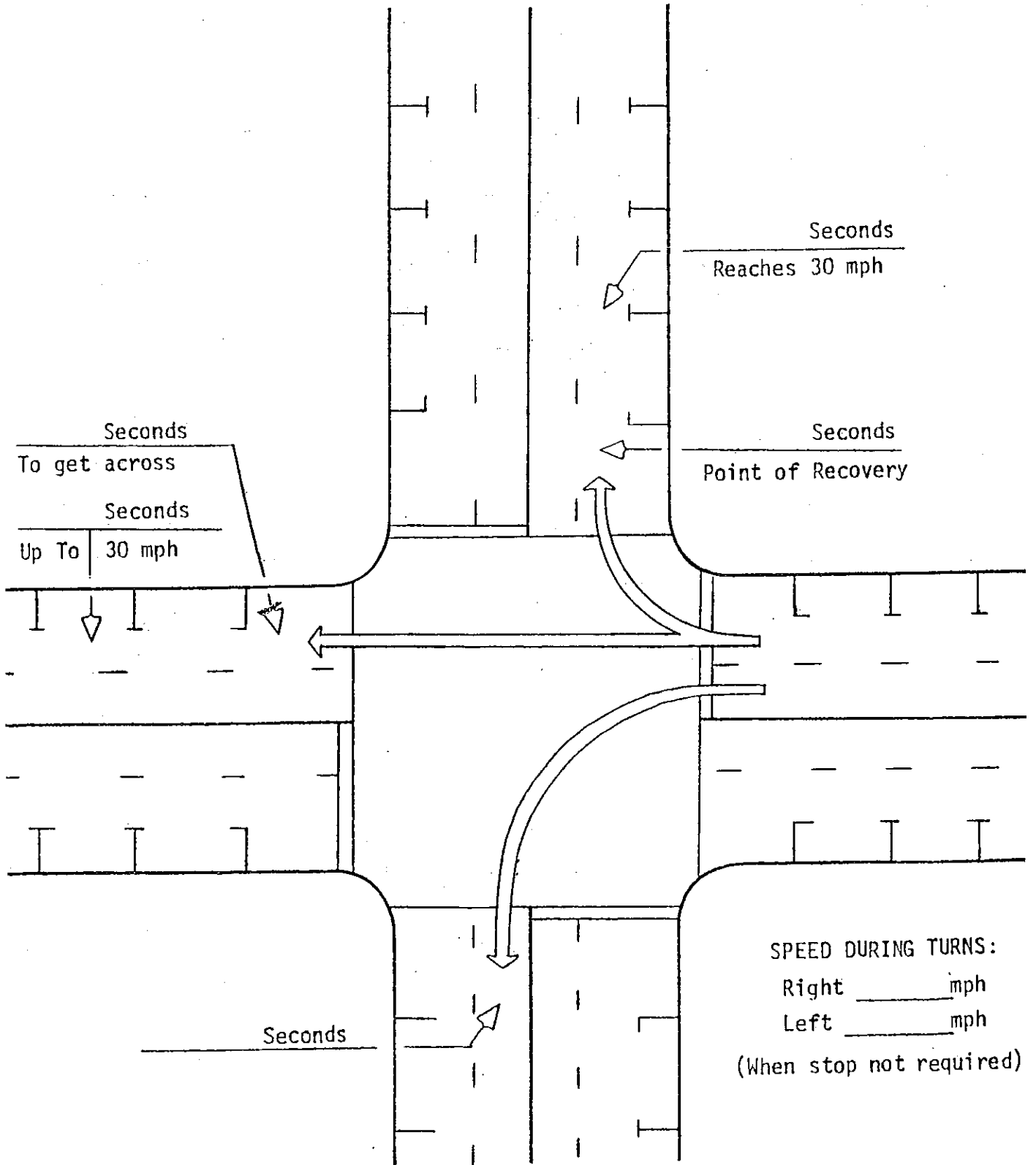
LCL or LCR: Lane change to left or lane change to right.

L-1 or R-1: To left or right one car width.

L- $\frac{1}{2}$  or R- $\frac{1}{2}$ : One-half car width to left or to right.

T R I A L	CHOICE OF PATH							S C O R E	N A M E
	LCL	L-1	L- $\frac{1}{2}$	00	R- $\frac{1}{2}$	R-1	LCR		
1									
2									
3									
4									
1									
2									
3									
4									
1									
2									
3									
4									

## TIME TO ACCELERATE AND TURN



## BTW DRIVER COMPETENCY RECORD

Student Name \_\_\_\_\_

In-Car Instructor \_\_\_\_\_

Total Score \_\_\_\_\_

Allow student to practice the competency, then make checks on the right side of the column for evaluating a number of performances. When the student has had ample time to demonstrate proficiency, award numerical scores on the left side of column.

☒ Minimum Competency Check☐ Above Minimum Check☐ Below Minimum Check

## 10 - START AND STOP HABITS

Outside pre-start
Inside pre-start
Start & Idle
Smooth Accelerate
Smooth stops
Proper backing
Underhood checks

## 10 - LATERAL CONTROL

Enter traffic
Lane keeping
Leave traffic
Uphill park
Downhill park
Secure car

## 15 - LEFT TURNS

Steer	Unwind
Path: In	Out
Eye habits	
Signalling	
Speed: In	Out

## 10 - RIGHT TURNS

Steer	Unwind
Path: In	Out
Eye habits	
Signalling	
Speed: In	Out

## 10 - CHANGE LANES TO LEFT

Eye habits
Communication
Gap selection
Speed adjust

## 10 - CHANGE LANES TO RIGHT

Eye habits
Communication
Gap selection
Speed adjust

## 20 - VISUAL HABITS

2-Second rule
4-Second rule
Mirror checks
Dash checks
Scan to sides
Scan surfaces

## 20 - TRAFFIC CONTROLS

Signs-ID	Signs-Resp
Signal lights-ID	
Signal lights-Resp	
Markings-Identify	
Markings-Response	
Time signal lights	

## 20 - ID HIGHWAY CONDITIONS

Design features
Reduced space to sides
Reduced sight distance
Reduced field of view
Reduced traction

## 20 - ID OTHER USER ACTIONS

Vehicle clues
Driver clues
Bicycle clues
Motorcycle clues
Pedestrian clues
Closures

## 30 - MULTI-LANE INTERSECTIONS

Crossing: Path	Gap
Rt turn: Path	Gap
Lt turn: Path	Gap
Lt turn against traffic	
Left off one-way	
Left onto one-way	
Stops behind others	

## 15 - MEETING OTHER VEHICLES

Curves: Path	Speed
Hills: Path	Speed
R-Space: Path	Speed
R-Traction: Path	Speed
Crosswinds: Path	

## 15 - FOLLOWING OTHER VEHICLES

	Follow distances
	Best lanes                      Bunches
	Position in lane
	Blindspotting
	Hazards to sides

## 10 - BEING FOLLOWED

Awareness
Speed adjust
Blindspotting

## 15 - PASSING &amp; BEING PASSED

Prepare to pass
Overtaking
Return to lane
Help others pass

## 10 - DRIVEWAY TURN-ABOUT

Enter from right
Back to left
Enter from left
Back to right
Back-in to right

## 10 - ANGLE PARKING

Enter acute
Exit acute
Enter perpendicular
Exit perpendicular

## 10 - PARALLEL PARKING

Back in on right
Pull out on right
Back in on left
Pull out on left

## 10 - INTERCHANGES

Merge: Gap	Speed
Choose exit	
Exit: Path	Speed

## 10 - VEHICLE FAILURES

Brakes	Steering
Engine	Tires

## 20 - DRIVER ERRORS

Off-road: Path	Speed
Braking skids	
Acceleration skids	
Swerve right	left
Controlled braking	
Rapid acceleration	

## 15 - OPERATE WITH A CLUTCH

Start & idle engine
Ahead & back in low
Shifts to all gears
Stops from 2,3, or 4
Stop & start on hills
Downshifting
Secure for parking

Total Basic Control Points

85

Total Identify &amp; Respond

130

Total Special Maneuvers

100

Passing Score \_\_\_\_\_

Award Driver Score \_\_\_\_\_

Total Possible Points \_\_\_\_\_

(These scores should be adjusted to fit local conditions and experience.)

DRIVER EDUCATION PERMANENT RECORD

Student Name	Sex	Birthdate
Class Dates	Lab Dates	License Number
Name of Parents	Telephone	
Address		

Laboratory Teacher

### Unit Test Scores for Classroom

I. ————— IV.

II. ————— III.

V. \_\_\_\_\_

VI. \_\_\_\_\_

VII. \_\_\_\_\_

VIII. \_\_\_\_\_

## Final On-Road Test Item Analysis

Items	Possible	Correct	Incorrect	Not Available
Path Selection				
Speed Selection				
Gap Selection				
Space Marg Main				
Communication				

### Summary of Scores

### Hours of Lab Instruction

Classroom Tests	Final Knowledge Exam
<p>1. The _____ is the most common type of _____.</p> <p>2. The _____ is the most common type of _____.</p> <p>3. The _____ is the most common type of _____.</p> <p>4. The _____ is the most common type of _____.</p> <p>5. The _____ is the most common type of _____.</p> <p>6. The _____ is the most common type of _____.</p> <p>7. The _____ is the most common type of _____.</p> <p>8. The _____ is the most common type of _____.</p> <p>9. The _____ is the most common type of _____.</p> <p>10. The _____ is the most common type of _____.</p>	<p>1. The _____ is the most common type of _____.</p> <p>2. The _____ is the most common type of _____.</p> <p>3. The _____ is the most common type of _____.</p> <p>4. The _____ is the most common type of _____.</p> <p>5. The _____ is the most common type of _____.</p> <p>6. The _____ is the most common type of _____.</p> <p>7. The _____ is the most common type of _____.</p> <p>8. The _____ is the most common type of _____.</p> <p>9. The _____ is the most common type of _____.</p> <p>10. The _____ is the most common type of _____.</p>

BTW Competencies

## On-Road Final Test

On-Street BTW	Observation
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
10	10
11	11
12	12
13	13
14	14
15	15
16	16
17	17
18	18
19	19
20	20
21	21
22	22
23	23
24	24
25	25
26	26
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28	28
29	29
30	30
31	31
32	32
33	33
34	34
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36	36
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38	38
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43	43
44	44
45	45
46	46
47	47
48	48
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57	57
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62	62
63	63
64	64
65	65
66	66
67	67
68	68
69	69
70	70
71	71
72	72
73	73
74	74
75	75
76	76
77	77
78	78
79	79
80	80
81	81
82	82
83	83
84	84
85	85
86	86
87	87
88	88
89	89
90	90
91	91
92	92
93	93
94	94
95	95
96	96
97	97
98	98
99	99
100	100

Total Score for Course

Final Grade

Note: This information can be placed on the two sides of a 5½ X 8½ card which can then be folded for filing.



## A. LESSON PLANNING

1. ☐ Objectives; ☐ Activities; ☐ Evaluation.
2. ☐ Good knowledge of individual student abilities.
3. ☐ Sequence logical and appropriate for student ability.
4. ☐ Appropriate methods for lesson identified.
5. ☐ Route selection appropriate for objectives and student abilities.

## B. INTRODUCTION AND DEMONSTRATIONS

1. ☐ Checks out dual-brake and other teaching aids.
2. ☐ Brief review and assessment of student readiness for new skill.
3. ☐ States objective and describes activities.
4. ☐ Demonstrates difficult skills and elicits student attention.
5. ☐ Establishes and maintains good rapport.

## C. DIRECTIONS AND INSTRUCTIONS

1. ☐ Constantly reads and analyzes the traffic scene around car.
2. ☐ Identifies in advance probable actions of other users.
3. ☐ Provides adequate lead time and correct wording.
4. ☐ Uses varied tone of voice and name of student.
5. ☐ Identifies where or when, before telling what to do.
6. ☐ Observes student hands and feet for proper actions.
7. ☐ Provides timely cues as necessary.

## D. SUPERVISION OF PRACTICE

1. ☐ Provides positive feedback and reinforcement.
2. ☐ Identifies errors promptly and indicates how to correct.
3. ☐ Provides enough repetition for mastery of skills and habits.
4. ☐ Allows for practice to progress with minimum or no coaching.
5. ☐ Involves observers with checklists and timely questions.
6. ☐ Makes appropriate use of commentary driving.

## E. USE OF CONTROLS

1. ☐ Demonstrates use of dual controls during the first lesson.
2. ☐ Maintains readiness position to take control promptly.
3. ☐ Anticipates and identifies critical problems well in advance.
4. ☐ Assists with steering control when needed.
5. ☐ Uses dual-brake smoothly before situation becomes critical.
6. ☐ Uses selector lever when needed for emergency control.
7. ☐ Considers use of park brake on console models.
8. ☐ Explains when and why controls were used.

## F. EVALUATION OF STUDENT ACHIEVEMENT

1. ☐ Reviews checklists and general performance with student.
2. ☐ Summarizes student strengths and weaknesses.
3. ☐ Provides suggestions for student improvement.
4. ☐ Makes assignment for next lesson and completes record forms.

## G. EVALUATION OF INSTRUCTION

1. ☐ Decides if objectives were achieved. If not, why.
2. ☐ Determines if time and routes were used effectively.
3. ☐ Seeks reasons when excessive use of controls were required.
4. ☐ Makes written comments for future improvements.

## ANSWER SHEET FOR THE SELF TESTS

### STARTING AND STOPPING SELF TEST

1.\_\_\_\_ 2.\_\_\_\_ 3.\_\_\_\_ 4.\_\_\_\_ 5.\_\_\_\_ 6.\_\_\_\_ 7.\_\_\_\_ 8.\_\_\_\_  
9.\_\_\_\_ 10.\_\_\_\_ 11.\_\_\_\_ 12.\_\_\_\_ 13.\_\_\_\_ 14.\_\_\_\_ 15.\_\_\_\_ 16.\_\_\_\_

### START AND MOVE

a.\_\_\_\_ b.\_\_\_\_ c.\_\_\_\_ d.\_\_\_\_ e.\_\_\_\_ f.\_\_\_\_ g.\_\_\_\_ h.\_\_\_\_

### STOP AND SECURE

a.\_\_\_\_ b.\_\_\_\_ c.\_\_\_\_ d.\_\_\_\_ e.\_\_\_\_ f.\_\_\_\_ g.\_\_\_\_ h.\_\_\_\_

### CHECK YOUR KNOWLEDGE OF TURNING

1.\_\_\_\_ 2.\_\_\_\_ 3.\_\_\_\_ 4.\_\_\_\_ 5.\_\_\_\_ 6.\_\_\_\_ 7.\_\_\_\_ 8.\_\_\_\_

### QUIZ FOR ENTERING AND LEAVING TRAFFIC

1.\_\_\_\_ 2.\_\_\_\_ 3.\_\_\_\_ 4.\_\_\_\_ 5.\_\_\_\_ 6.\_\_\_\_ 7.\_\_\_\_ 8.\_\_\_\_

### LANE POSITIONING & SPEED CONTROL QUIZ

1.\_\_\_\_ 2.\_\_\_\_ 3.\_\_\_\_ 4.\_\_\_\_ 5.\_\_\_\_ 6.\_\_\_\_ 7.\_\_\_\_

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### TRAFFIC CONTROLS SELF TEST

1.\_\_\_\_ 2.\_\_\_\_ 3.\_\_\_\_ 4.\_\_\_\_ 5.\_\_\_\_ 6.\_\_\_\_ 7.\_\_\_\_ 8.\_\_\_\_  
9.\_\_\_\_ 10.\_\_\_\_ 11.\_\_\_\_ 12.\_\_\_\_ 13.\_\_\_\_ 14.\_\_\_\_ 15.\_\_\_\_ 16.\_\_\_\_  
17.\_\_\_\_ 18.\_\_\_\_ 19.\_\_\_\_ 20.\_\_\_\_ 21.\_\_\_\_ 22.\_\_\_\_ 23.\_\_\_\_ 24.\_\_\_\_  
25.\_\_\_\_ 26.\_\_\_\_ 27.\_\_\_\_ 28.\_\_\_\_ 29.\_\_\_\_ 30.\_\_\_\_ 31.\_\_\_\_ 32.\_\_\_\_  
33.\_\_\_\_ 34.\_\_\_\_ 35.\_\_\_\_ 36.\_\_\_\_ 37.\_\_\_\_ 38.\_\_\_\_

### MEETING AND FOLLOWING QUIZ

1.\_\_\_\_ 2.\_\_\_\_ 3.\_\_\_\_ 4.\_\_\_\_ 5.\_\_\_\_ 6.\_\_\_\_  
7.\_\_\_\_ 8.\_\_\_\_ 9.\_\_\_\_ 10.\_\_\_\_

### CROSSING AND TURNING QUIZ

1.\_\_\_\_ 2.\_\_\_\_ 3.\_\_\_\_ 4.\_\_\_\_ 5.\_\_\_\_ 6.\_\_\_\_ 7.\_\_\_\_

### QUIZ FOR INTERCHANGES

1.\_\_\_\_ 2.\_\_\_\_ 3.\_\_\_\_ 4.\_\_\_\_ 5.\_\_\_\_ 6.\_\_\_\_ 7.\_\_\_\_ 8.\_\_\_\_

## ANSWER KEY TO THE SELF TESTS

## STARTING AND STOPPING SELF TEST

1. a    2. b    3. a    4. a    5. b    6. a    7. c    8. a  
 9. b    10. a    11. a    12. c    13. a    14. a    15. d    16. a

## START AND MOVE

- a. 5    b. 3    c. 8    d. 2    e. 7    f. 4    g. 1    h. 6

## STOP AND SECURE

- a. 5    b. 1    c. 6    d. 2    e. 7    f. 4    g. 8    h. 3

## CHECK YOUR KNOWLEDGE OF TURNING

1. c    2. b    3. c    4. b    5. a    6. c    7. b    8. a

## QUIZ FOR ENTERING AND LEAVING TRAFFIC

1. b    2. d    3. b    4. b    5. b    6. c    7. b    8. a

## LANE POSITIONING &amp; SPEED CONTROL QUIZ

1. a    2. b    3. a    4. c    5. a    6. b    7. b

## TRAFFIC CONTROLS SELF TEST

1. c    2. b    3. a    4. b    5. b    6. a    7. c    8. a  
 9. b    10. a    11. c    12. b    13. c    14. a    15. c    16. c  
 17. b    18. c    19. c    20. b    21. c    22. a    23. c    24. c  
 25. c    26. a    27. b    28. b    29. a    30. c    31. b    32. b  
 33. c    34. b    35. a    36. a    37. b    38. a

## MEETING AND FOLLOWING QUIZ

1. c    2. a    3. b    4. a    5. c    6. b  
 7. c    8. b    9. a    10. c

## CROSSING AND TURNING QUIZ

1. c    2. a    3. b    4. c    5. a    6. d    7. b

## QUIZ FOR INTERCHANGES

1. c    2. b    3. a    4. b    5. b    6. a    7. a    8. b

## STARTING AND STOPPING SELF TEST

Instructions: Use the answer sheet provided, and print the ONE BEST answer for each question. Bring the completed answer sheet to the next laboratory lesson and exchange with a classmate for checking the answers. Place an "X" through each wrong answer. Beside each "X" print the letter of the correct answer. For each correct answer, score one point. Hand into your instructor.

1. The best time to check air pressure in the tires of a car is
  - A. before driving the car.
  - B. after driving the car for some distance.
2. Underinflated tires
  - A. use less gasoline.
  - B. use more gasoline.
  - C. have no effect on the amount of gasoline used.
3. When there is a drop in the temperature outside, the tire pressure can be expected to
  - A. decrease.
  - B. increase.
  - C. stay the same.
4. Which of these adjustments should you make first after you get into your car?
  - A. Adjust the seat.
  - B. Adjust the mirrors.
  - C. Adjust the safety belts.
  - C. Adjust the sun visor.
5. In a collision, your chances of having a serious injury are greater if you
  - A. remain inside the car.
  - B. are thrown out of the car.
6. To help start a flooded motor, what should you do while turning the key to the "start" position?
  - A. Push the gas pedal to the floor and hold it.
  - B. Pump the gas pedal four or five times.
  - C. Push the gas pedal partway to the floor.
  - D. Put no pressure on the gas pedal.
7. You should make it a habit each time you start the motor of your car to check all the gauges on the dash while holding the key briefly in the "ON" position. This should tell you whether or not
  - A. the electrical system is working properly.
  - B. the ignition system is working properly.
  - C. the gauges themselves are working properly.

8. The oil gauge or warning light on the dash indicates the amount of
  - A. engine oil pressure.
  - B. oil in the crankcase.
  - C. oil in the transmission.
9. Assume you are driving down a highway at 45 mph when the alternator warning light comes on. What should you do?
  - A. You should stop immediately along side of the road and shut off the motor to prevent serious damage.
  - B. You could drive six miles to the next town without damage to the motor.
10. Assume you are driving down a highway at 45 mph when the temperature gauge or warning light indicates the water in the motor is boiling. What should you do?
  - A. You should stop immediately along side of the road and shut off the engine to prevent serious damage.
  - B. Proceeding slowly, you could drive six miles to the next town without serious damage to the motor.
11. Assume you are driving down a highway at 45 mph when the oil pressure warning light comes on. What should you do?
  - A. You should stop immediately along the side of road and shut off the motor to prevent serious damage.
  - B. Proceeding slowly, you could drive six miles to the next town without serious damage to the motor.
12. The best way to warm up the car motor and save gasoline on a cold morning is to
  - A. pump the gas pedal a few times.
  - B. let it idle for about five or more minutes.
  - C. drive away slowly after idling for about 30 seconds.
13. You are waiting to do business at a bank drive-in window. Restarting the motor rather than letting it idle for more than one minute will
  - A. use less gasoline.
  - B. use more gasoline.
  - C. use about the same amount of gasoline.
14. A quick getaway from a stopped position in traffic
  - A. uses more gasoline.
  - B. uses less gasoline.
  - C. makes no difference in the amount of gasoline used.

15. The best method of backing up in a straight line is to
- A. use the inside and outside mirrors.
  - B. make quick glances at all four corners of the car.
  - C. look out the door windows along the left side.
  - D. look over your right shoulder through the rear window.
16. When backing a car, always remember to turn the top of the steering wheel in the
- A. same direction the back end is to go.
  - B. same direction the front end is to go.
  - C. opposite direction the back end is to go.

Instructions for the following: Number the steps in the correct order.

START & MOVE

STOP & SECURE

- |   |   |
|---|---|
| a. ___ Hold foot brake down                 | a. ___ Place selector lever in "P"              |
| b. ___ Key to start & release               | b. ___ Release gas pedal                        |
| c. ___ Press on gas pedal                   | c. ___ Shut off all accessories                 |
| d. ___ Key to "on" and check warning lights | d. ___ Press brake pedal to point of resistance |
| e. ___ Release brakes                       | e. ___ Turn key to lock and set park brake      |
| f. ___ Read gauges while motor idles        | f. ___ Apply full pressure                      |
| g. ___ Check selector lever and park brake  | g. ___ Remove restraints and and lock doors     |
| h. ___ Selector lever to "D"                | h. ___ Use slight pumping action                |

## CHECK YOUR KNOWLEDGE OF TURNING

Instructions: Use the answer sheet provided, and print the ONE BEST answer for each question. Bring the completed answer sheet to the next laboratory lesson and exchange with a classmate for checking the answers. Place an "X" through each wrong answer. Beside each "X" print the letter of the correct answer. For each correct answer, score one point. Hand in to your instructor.

1. When a car is being steered around a corner, the tracks made by the rear tires are always
  - A. on top of those made by the front tires.
  - B. outside those made by the front tires.
  - C. inside those made by the front tires.
2. When making a right or left turn at a standard (90 degree) corner, the speed should not be more than
  - A. 5-9 mph.
  - B. 10-15 mph.
  - C. 20-25 mph.
3. As the sharpness of a turn or curbing is increased, the width of the pathway required by a car is
  - A. not changed.
  - B. decreased.
  - C. increased.
4. When preparing to turn in a rural or county area, how far ahead should you signal this intention ?
  - A. 100 feet.
  - B. 200 feet.
  - C. 300 feet.
5. In making a right turn, you should start turning the steering wheel when the front
  - A. of your car is even with the curb of the other street.
  - B. of your car reaches the middle of the other street.
  - C. door of your car is even with the curb of the other street.
6. In making a left turn, you should start turning the steering wheel when the front
  - A. of your car is even with the curb of the other street.
  - B. of your car reaches the middle of the other street.
  - C. door of your car is even with the curb of the other street.
7. When beginning a right turn around sharp curbing, you should position your car at least
  - A. one-half car width from the right side of the street.
  - B. one car width from the right side of the street.
  - C. two car widths from the right side of the street.
8. When coming out of a turn, you should start straightening the wheels
  - A. when the front of your car reaches the new path of travel.
  - B. after the front of your car reaches the new path of travel.

## QUIZ FOR ENTERING AND LEAVING TRAFFIC

Instructions: Use the answer sheet provided, and print the ONE BEST answer for each question. Bring the completed answer sheet to the next laboratory lesson and exchange with a classmate for checking the answers. Place an "X" through each wrong answer. Beside each "X" print the letter of the correct answer. For each correct answer score one point. Hand in to your instructor.

1. Unless otherwise marked, the speed limit in urban areas is  
A. 15 mph.      B. 30 mph.      C. 45 mph.      D. 55 mph.
2. Unless otherwise marked, the speed limit in rural areas is  
A. 15 mph.      B. 30 mph.      C. 45 mph.      D. 55 mph.
3. Unless otherwise marked, the speed limit in an alley is  
A. 20 mph.      B. 15 mph.      C. 10 mph.      D. 5 mph.
4. The right-of-way law provides us with  
A. our basic rights as drivers.      B. rules for when to yield.  
C. rules for turning right.      D. principles for lane usage.
5. When entering traffic from a parked position along a curb in an urban area, you will need a traffic gap of about  
A. one block.      B. one-half block.      C. one-quarter block.
6. You should check your blind spots by  
A. using the outside mirror.  
B. using both the inside and outside mirrors.  
C. looking backwards over your shoulders.
7. When parking uphill along a curb, you should leave the car with the front wheels  
A. turned toward the curb.      B. turned away from the curb.  
C. pointed straight ahead.
8. When parking downhill along a curb, you should leave the car with the front wheels  
A. turned toward the curb.      B. turned away from the curb.  
C. pointed straight ahead.



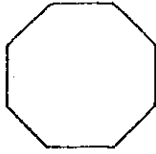
## LANE POSITIONING &amp; SPEED CONTROL QUIZ

Instructions: Use the answer sheet provided, and print the ONE BEST answer for each question. Bring the completed answer sheet to the next laboratory lesson and exchange with a classmate for checking the answers. Place an "X" through each wrong answer. Beside each "X" print the letter of the correct answer. For each correct answer score one point. Hand in to your instructor.

1. As a driver, you should have the habit of looking ahead of your car a distance of about  
A. 12 seconds.      B. 4 seconds.      C. 2 seconds.
2. Under normal conditions, how much time is needed to stop your car so as to avoid hitting a pedestrian running across your path?  
A. 12 seconds.      B. 4 seconds.      C. 2 seconds.
3. The two-second following distance rule provides you with an adequate stopping distance when following other moving cars at  
A. all speeds.      B. speeds up to 30 mph.      C. speeds up to 50 mph.
4. What is the best point of reference to use for guiding your car along a lane or path of travel ?  
A. The center line of the roadway.  
B. The right edge of the roadway.  
C. The center of the lane or path of travel.
5. When you downshift to "D-1" or "D-2", the amount of acceleration or pick up of speed of your car should be  
A. increased.      B. decreased.      C. about the same.
6. After downshifting to "D-1" or "D-2", the amount of deceleration or rate of slow down of your car should be  
A. decreased.      B. increased.      C. about the same.
7. Listening to the various sounds your car makes can help you judge the  
A. position of your car.      B. speed of your car.  
C. weather conditions.

## TRAFFIC CONTROLS SELF TEST

Instructions: Use the answer sheet provided. Then, write down the letter of the ONE BEST answer. Hand in to you instructor.



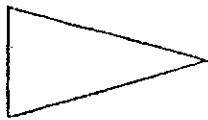
1. *Red*  
 A. Stop when clear  
 B. Yield to cars  
 C. Full stop always



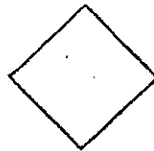
2. *Yellow*  
 A. Crossroad  
 B. Railroad ahead  
 C. Railroad here



3. *Red*  
 A. Yield  
 B. Stop  
 C. Do not pass



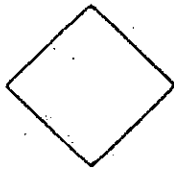
4. *Yellow*  
 A. Yield  
 B. Do not pass  
 C. School zone



5. *Yellow*  
 A. Guide  
 B. Warning  
 C. Construction



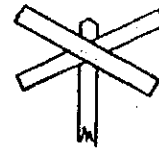
6. *White*  
 A. Regulator  
 B. Guide  
 C. Warning



7. *Orange*  
 A. Guide  
 B. Warning  
 C. Construction



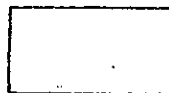
8. *White*  
 A. Guide  
 B. Regulator  
 C. Construction



9. *White*  
 A. Crossroad  
 B. Railroad here  
 C. Railroad ahead



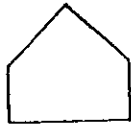
10. *Blue*  
 A. Roadside services  
 B. Recreation areas  
 C. Distance and destination



11. *Green*  
 A. Roadside services  
 B. Recreation areas  
 C. Distance and destination

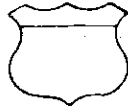


12. *Brown*  
 A. Roadside services  
 B. Recreation areas  
 C. Distance and destination



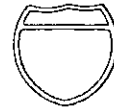
13. Yellow

- A. Do not pass
- B. Yield
- C. School zone



14. White

- A. U.S. route
- B. State route
- C. Interstate route



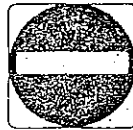
15. Red and Blue

- A. U.S. route
- B. State route
- C. Interstate route



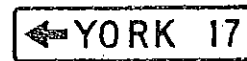
16. Red and Orange

- A. Yield
- B. Construction
- C. Slow moving vehicle



17. Red and White

- A. Railroad ahead
- B. Do not enter
- C. Stop



18. White

- A. Road goes left
- B. Route 17 to left
- C. 17 miles to city



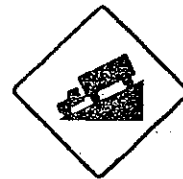
19. Yellow

- A. School crossing
- B. School zone
- C. Pedestrian crossing



20. Yellow

- A. School crossing
- B. School zone ahead
- C. Pedestrian crossing



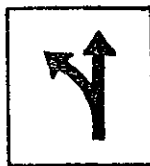
21. Yellow

- A. Truck crossing
- B. Construction
- C. Steep hill



22. Red and White

- A. No trucks
- B. Slow moving vehicle
- C. Truck crossing



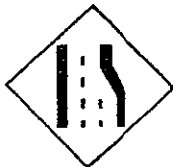
23. White

- A. Merging traffic
- B. Exit to left
- C. Go straight or left



24. Yellow

- A. Winding road
- B. Curve ahead
- C. Slippery when wet



25. Yellow

- A. Merging traffic
- B. Road narrows
- C. Right lane ends



26. Yellow

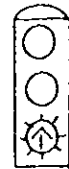
- A. Merging traffic
- B. Divided highway
- C. Right lane ends



27. Yellow

- A. Divided highway
- B. Highway divides
- C. Exit to right

28. The steady yellow signal light warns that  
A. traffic approaching should yield.  
B. the signal light is changing to red.  
C. the signal light is changing to green.
29. The WALK light comes on with the  
A. green light.      B. yellow light.      C. red light.
30. The DONT WALK light comes on  
A. after the green goes off.      B. after the yellow goes off.  
C. before the green goes off.
31. The steady green arrow means you may go  
A. straight ahead after stopping.      B. straight ahead only.  
C. straight ahead or turn right.
32. A car is standing in an intersection waiting to turn left when the signal light turns red. Who should get to go first ?  
A. The driver with the green light.      B. The driver caught in the intersection waiting to turn.  
C. The driver who moves first.
33. If a driver wants to turn right and is faced with a right green arrow and a red light, he or she should  
A. make a full stop, then go.      B. wait for the red light to go off.  
C. go, but yield to any traffic.
34. If a car going 20 mph reaches the crosswalk just as the green signal light changes to yellow, the driver should  
A. stop and then back out of the intersection.  
B. continue through the intersection with caution.  
C. stop and stay in the intersection.
35. What should a driver do at an intersection where the one signal light is flashing yellow ?  
A. Slow down and proceed with caution.      B. Stop, look and go.  
C. Stop and stay until light stops flashing.
36. Pavement markings that are used to separate traffic moving in the same direction are  
A. white lines.      B. yellow lines.      C. black lines.
37. Pavement markings that are used to separate traffic moving in the opposite direction are  
A. white lines.      B. yellow lines.      C. black lines.
38. When white arrows are painted in a lane, the drivers using that lane  
A. must go in the direction of the arrows only.  
B. may change lanes just before reaching the arrows.  
C. do not have to go in the direction of arrows unless they choose.



## MEETING AND FOLLOWING QUIZ

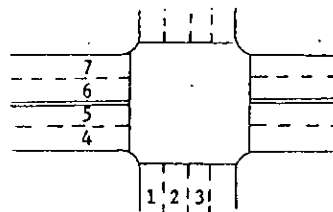
Instructions: On an answer sheet print the letter of the ONE BEST answer to each question. Hand in to your instructor.

1. When approaching a curve to the right, it is best to position your car to the  
A. center of lane.      B. right side of lane.      C. left side of lane.
2. The best way to go up a hill is to speed up and pick up momentum  
A. just before reaching the hill.      B. about half way up the hill.  
C. just as you reach the top.
3. The best method to provide for an escape path or way out of an emergency is with  
A. distance to the front.      B. distance to the sides.  
C. distance to the rear.
4. A driver has the most control over the space margins to the  
A. front.      B. rear.      C. right side      D. left side.
5. You can choose the best place to meet other traffic by  
A. positioning.      B. communication.      C. timing.
6. You can best provide time for observation and processing information  
A. by positioning.      B. by adjusting speed.      C. timing.
7. When another car is following your car too closely, it is best to allow a greater space margin to the  
A. right side.      B. left side.      C. front.
8. When you are following large trucks, your normal following distance should be  
A. decreased.      B. increased.      C. about the same.
9. On a winter day early in the morning, you are approaching a bridge. Your chances for hitting an oncoming car would be increased due to  
A. less traction.      B. less space.      C. less visibility.
10. What is the best way to signal the message of warning, "There is trouble ahead in my lane."  
A. Turn on the four-way flashers.  
B. Give a sharp blast of the horn.  
C. Flash you brake lights several times.

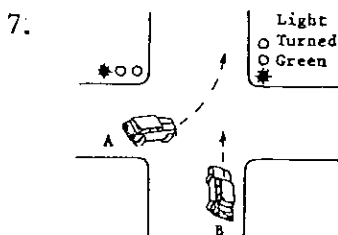
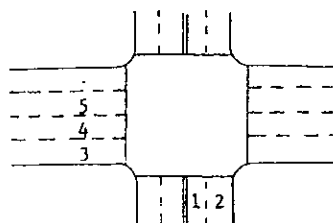
## CROSSING AND TURNING QUIZ

Instructions: On your answer sheet, print the letter of the ONE BEST answer for each question. Hand in to your instructor.

- When making a right or left turn at an intersection in the city, you will need a time gap in traffic of about  
A. 3-4 seconds.      B. 5-6 seconds.      C. 7-8 seconds.
- You plan to turn left against traffic at a busy intersection. Where should you position your car?  
A. Just before reaching the proper lane for turning.  
B. In the center of the intersection.  
C. Just over the side walk.
- You are crossing an intersection with three or more lanes going your way. The best lane to pick is the  
A. right lane.      B. center lane.      C. left lane.
- When you are waiting to turn left onto a through street from a narrow side street, it is best to position your car to the  
A. left side of your lane next to the center. ( $L-\frac{1}{2}$ )  
B. center of your lane. (O)  
C. right side of lane close to curb. ( $R-\frac{1}{2}$ )
- You are making a left turn from a one-way street into a two-way street. You should turn from



- You are making a left turn from a two-way street into a one-way street. You should turn from



Car A is starting to turn left just as the signal light changed.

- Car A should yield to car B.
- Car B should yield to car A.

## QUIZ FOR INTERCHANGES

Instructions: On an answer sheet print the letter of the ONE BEST answer for each question. Hand in to your instructor.

1. Merging situations involve maneuvers in which
  - A. one driver must adjust speed and position.
  - B. one driver must yield to another.
  - C. both drivers must adjust speed and position.
2. You can expect the ramp speeds to be about
  - A 15-20 mph.
  - B. 25-35 mph.
  - C. 40-50 mph.
3. The speed change lanes at interchanges are
  - A. used sometimes for both entering and exiting.
  - B. never used for both entering and exiting.
4. The ramps at interchanges are for
  - A. two-way traffic.
  - B. one-way traffic only.
5. You are on a freeway approaching a diamond interchange. There will be
  - A. at least two exit ramps.
  - B. only one exit ramp.
6. You are on a freeway preparing to exit at the next interchange. It is best to start slowing down on the
  - A. speed change lane.
  - B. freeway just before the exit.
7. Use the diamond interchange diagram on page 60. Assume you are going east on Route 32. To go north on Route 189, you should
  - A. turn right at the first exit, then turn left off the ramp onto highway 189.
  - B. turn right at the first exit, then turn right off the ramp onto highway 189.
8. Use the cloverleaf interchange diagram on page 61. Assume you are going north on Route 37 and you want to go west on Route 32. You should take the
  - A. first exit from the right lane.
  - B. second exit from the right lane.