

XXXVII

EMERGENCY DRIVING SKILLS, PART V

EXECUTING THE DRIVING DECISION

ABSTRACT

This self-instructional unit is designed to provide operators of emergency vehicles with information necessary in the decision-making process. This information includes a discussion of the natural laws of force and traction which affect the operator's driving decisions.

BEHAVIORAL OBJECTIVES

Upon completion of this self-instructional unit the student will be able to:

- Define the concepts of steering, acceleration, and braking as they relate to the decision-making process.
- Describe the difference in tire construction, tire tread, and tire pressure.
- Describe the difference between sliding and rotating tires.
- Describe the significance of nature's force in relation to the cornering ability of vehicles

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- Describe the difference in effectiveness between the hands of an operator at "10 and 2" and at "9 and 3" on the steering wheel.
- Identify reasons for using safety belts and harnesses.

## Self-Instructional Unit #37

### EMERGENCY DRIVING SKILLS - V

#### I. EXECUTING THE DRIVING DECISION

##### A. Introduction

The previous units in the Emergency Driving Skills series discussed the first three elements of the I.P.D.E. System, namely, Identify, Predict, and Decide. This unit will present the requirements for Executing your driving decision.

Driver action is determined according to the relationship of time, distance, and speed (see Figure 37-1). The previous units have emphasized the mental processes that are prerequisite to determining driver action, i.e., executing the driving decision. The operator of the emergency vehicle must be able to judge the closing distance of a hazard in relation to the speed of the emergency vehicle as well as the speed of other vehicles. As a result of such judgments, the driver will be better able to estimate the time required to perform the maneuvers needed to avoid potential dangers. Executing a driving decision, therefore, requires judgments relating to distance, speed, and time.

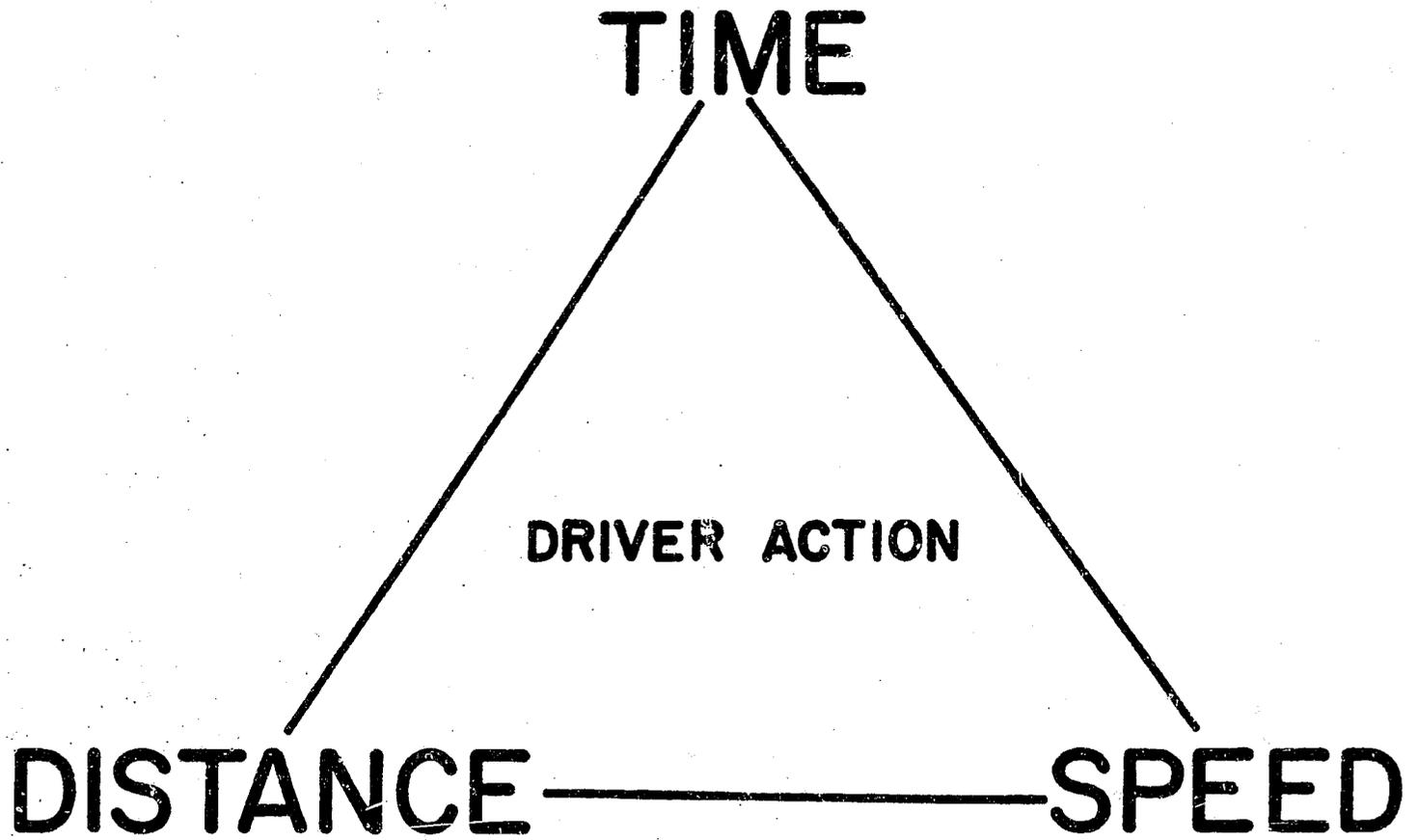
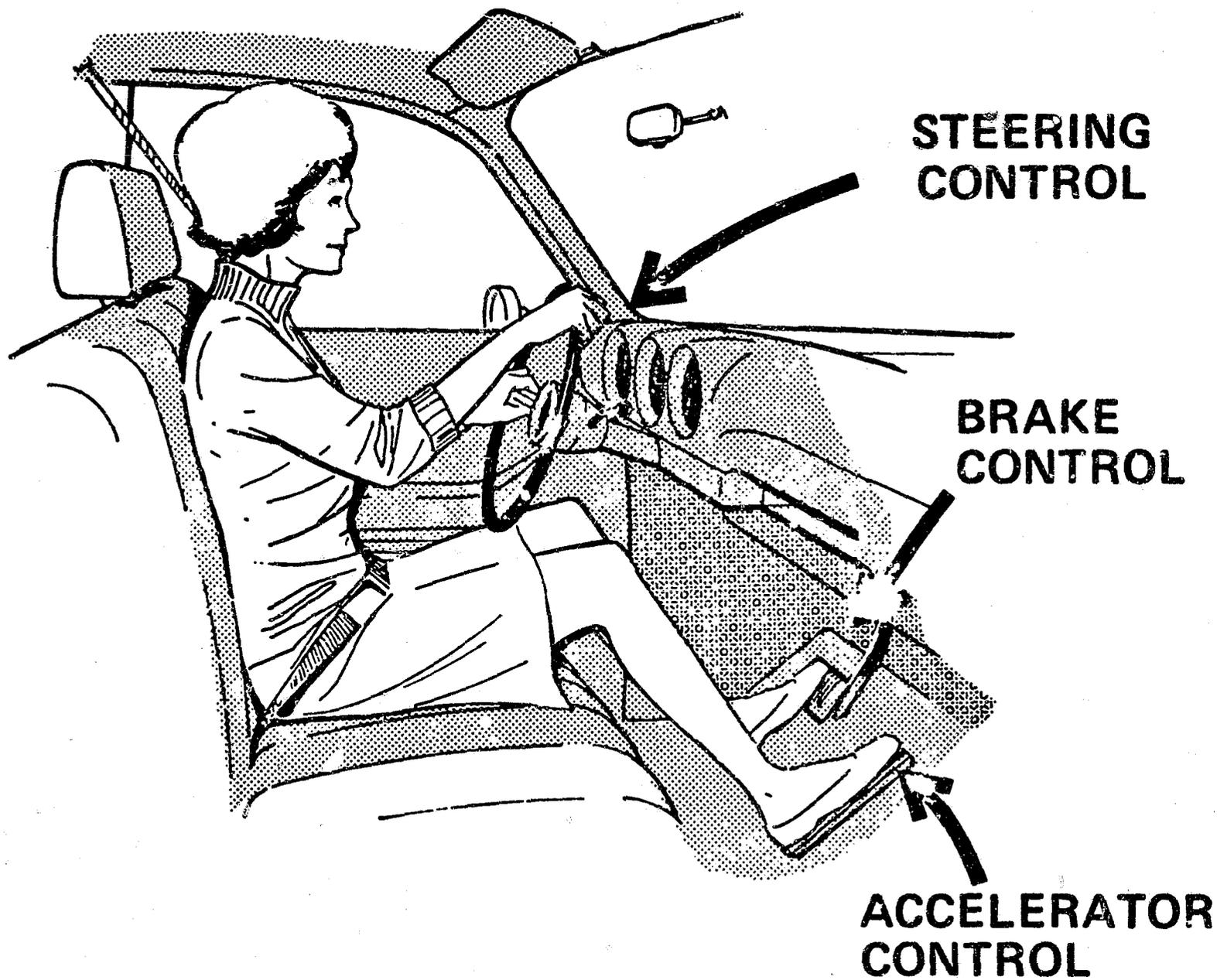


FIGURE 37-1  
XXXVII-4

There are three different vehicle controls which permit the driver to execute the decided-upon driving action: acceleration, steering, and braking. Figure 37-2 depicts the three control functions which allow the driver to execute driving decisions. Each of these functions will be discussed separately below.

# You Can EXECUTE Your Decision In 3 Ways:



STATE OF MARYLAND--AUTO SAFETY 13  
FIGURE 37-2  
XXXVII-6

## B. Acceleration

In executing your driving decision, and in order to choose the safest possible roadway position, the emergency vehicle operator must be able to accelerate from one speed to another.

Acceleration can be defined as an increase of speed, either from one speed to another or from a stopped position. Rate of acceleration is the time it takes to accelerate from one speed to another. There are different factors which affect the acceleration, or pickup in an emergency vehicle. These factors include roadway traction and conditions which will vary considerably. Factors in the vehicle itself include engine power, transmission capability, and differential gear ratios.

Generally, your emergency vehicle will accelerate rapidly and hold speed very well. This acceleration power may often be needed in pulling away from curbs or the sides of roadways into moving traffic. It may also prove necessary while crossing or turning at intersections. It is critical, therefore, that you test and become familiar with the general acceleration characteristics of your emergency vehicle.

It is also important to realize that the acceleration capability of your vehicle varies with the speed at which you are driving. As a general rule, the general acceleration capability of your vehicle decreases as your speed increases. The result is that you will find it

more difficult to increase your acceleration as rapidly at higher speeds. Caution should be exercised at higher speeds so that you do not place yourself in a high-speed situation which would simultaneously necessitate a maneuver that would demand the maximum acceleration capability from your emergency vehicle.

Acceleration or deceleration is used to control the speed of your vehicle. Gravity as well as the amount of gasoline supplied to the engine affects the speed of the vehicle. Driving downhill, therefore, tends to increase speed and in order to maintain a safe speed on a downgrade, therefore, you should determine the need to decelerate rather than continue to accelerate.

### C. Steering

Your ability to maintain steering control depends largely upon the directional control and cornering stability of your emergency vehicle.

Directional control refers to your emergency vehicle's capability to maintain a straight line when it is not influenced by outside forces. Your vehicle should continue to move in the same direction in which it has been pointed or turned, thus indicating proper directional control. Factors arise, however, which will require you to make corrections in your steering. These may be wind factors, roadway conditions such as contour and surface traction, or the closing potential of other vehicles or hazards.

Proper tracking indicates a sign of good directional control, i.e., the rear wheels track in line directly behind the front wheels. Improper tracking may be caused by a bent frame or other vehicle defect. You should be aware of improper tracking, especially, in other vehicles since the directional control in such vehicles will be imprecise and may not permit the amount of room needed for an emergency maneuver.

Cornering ability refers to an emergency vehicle's ability to steer around a turn without losing its precise control. If your vehicle sways or rolls excessively during a turn, there is greater danger of losing control. In general your vehicle should remain as level as possible as it makes turns.

Check your emergency vehicle to determine signs of oversteering or understeering. Oversteering refers to a vehicle's tendency to result in the front end moving to the inside of the path of travel while the rear end moves to the outside. Understeering refers to the opposite situation, i.e., the front end moves to the outside of the path of travel while the rear end moves to the inside (see Figure 37-3). Both oversteering and understeering are dangerous situations for your emergency vehicle but oversteering is more so since you must turn the wheel in a direction which is opposite to the path of travel you desire as the most safe. Understeering, on the other hand can be corrected simply by reducing your speed and steering harder in the safer, more desired direction.

As operator of an emergency vehicle you should maintain a constant check on the power steering mechanism of your vehicle. This means especially checking the power steering fluid level to insure the maximum efficiency of your steering system. Report all malfunctions, even the most minor, immediately since the steering system is so crucial to directional control and cornering.

Other factors which may influence your directional control and cornering are the following: suspension system, tires (see below), shock absorbers, front-end alignment, and overloading or improper loading of vehicles. These conditions surrounding such factors in other vehicles may adversely affect your ability to safely control your emergency vehicle and should be observed carefully.



oversteering



understeering

FIGURE 37-3

Among such observations are the following:

(1) Vehicles which sag on one side or other or sag to the front or rear, indicating worn shock absorbers or perhaps broken springs.

(2) Overloaded vehicles in which the back end is lower than the front. Vehicles overloaded in the rear-end are subject to rear-end spin-outs, especially on turns or sharp curves.

(3) Cars with luggage racks on roofs and top-loaded vehicles such as vans or cars with luggage racks influence directional control. Such vehicles have a high center of gravity and as such are adversely affected by strong winds.

(4) Vehicle handling is affected by such wheel defects as shimmy, bounce, and wobbling. Such conditions may indicate problems in the tires, steering and/or suspension systems, all of which affect directional control.

(5) Vehicles with trailers lose some degree of directional control.

(6) Other vehicles such as fast-moving motorcycles, and cars with raised rear-ends also have poor cornering characteristics and should be given special attention in an emergency driving situation.

TO CHECK YOUR PROGRESS PLEASE ANSWER THE FOLLOWING QUESTIONS.

Directions: Using your response sheet, circle the letter of the item which most correctly completes the following statement.

1. The acceleration capability of your vehicle:

- a. decreases as your speed increases
- b. varies with the speed you are driving
- c. both of the above
- d. neither of the above

Directions: Using your response sheet, circle the letter of the directional characteristic listed in Column II which best corresponds to the steering action in Column I. Use each letter only once.

- |                        |   |
|------------------------|---|
| 2. Directional control | a. rear wheels directly behind front wheels                       |
| 3. Proper tracking     | b. maintain constant check on power steering                      |
| 4. Cornering ability   | c. steer around a turn without losing precise control             |
|                        | d. maintain a straight line when not influenced by outside forces |

Directions: Using your response sheet, circle the letter of the item which most correctly completes the following statement.

5. Overloaded vehicles in which the back end is lower than the front:
- a. have a high center of gravity
  - b. indicate problems in the suspension system
  - c. both of the above
  - d. neither of the above

Please check your responses with the Key on page 34 and review those items which you missed before proceeding.

## 1. Centrifugal and Centripetal Force

Centrifugal force is defined as the force of a body in motion which tends to keep it continuing in the same direction rather than following a curved path. In the case of centrifugal force the body in motion moves away from the center.

Centripetal force is defined as the force of a body in motion which tends to make the body move toward, rather than away from, the center.

Just as any other object, an emergency vehicle, having been set into motion, will tend to proceed in a straight line. If the operator were to turn the front wheels at an angle and the vehicle kept on moving straight ahead, then the front wheels would necessarily have to slip sidewise. Such slipping, however, is normally prevented due to the natural friction existing between the tires and the roadway. Normally, therefore, as the front wheels are turned, the front of the vehicle is turned to one side or the other, thus causing the vehicle to follow a curved path. The faster a vehicle moves, the greater amount of friction force is required to redirect it into a curved path. If the speed is excessive, the force which normally keeps the vehicle moving in a straight direction is too great for the friction between the tires and the surface of the roadway, and the result is that the vehicle is pulled into a path away from the curve in which it was moving.

## 2. Friction or Traction

Friction is the resistance which results from one surface touching another and moving across its surface. This is the natural law which is at work when the tires of your vehicle operate on the surface of the roadway. The greater amount of friction or traction there is between your tires and roadway surface, the greater degree of control you will have over your emergency vehicle.

### 3. Tires

The tires of an emergency vehicle must provide sufficient traction at all times to avoid potential danger. The type of tire construction, the tire pressure, and the tire tread depth are all important factors which affect the driver's ability to maneuver and to stop a vehicle.

#### a. Tire Construction

The most common types of tire construction are 1) conventional ply, 2) bias ply, and 3) radial ply. Of all three constructions, the radial tire provides the greatest amount of traction and hence the greatest degree of directional control. At the same time, however, it does present the most violent breakaway in the event of a blowout, especially at higher speeds.

#### b. Tire Pressure

For comfortable driving in normal use, the manufacturer's recommended pressure is sufficient. For routine police driving which requires driving under emergency conditions the manufacturer's recommended pressure or lower pressure is unsafe. Emergency driving calls for inflation of tires at least 30% above the manufacturer's recommended pressure. For example, if the manufacturer recommends 28 pounds per square inch (p.s.i.), then the emergency vehicle should be 28 p.s.i. plus 30% (= 8.4 p.s.i.)

or 36.4 p.s.i. This pressure will keep the tire bead high on the rim and consequently provide greater traction in high speed turns. Frequent pressure checks are recommended since tires tend to fluctuate in pressure due to climatic conditions, length of use, and use at differing speeds.

c. Tire Treads

The tread of your tire is the grooved surface and should be checked routinely at frequent intervals to determine the tread depth. Tread depth is essential to insuring a safe degree of traction, especially under emergency driving conditions. Badly worn tires do not grip the surface of the roadway under most conditions, but especially when the roadway surface is wet and slick. Conversely, tires with wide, deep treads provide better traction under all weather and roadway conditions. Hence, tire tread depth can be critical in most emergency situations. The minimum legal tread depth is  $2/32$  inch. This tread depth, however, while adequate for normal driving on smooth, dry surfaces, is not sufficient for emergency vehicles, especially while operating under more hazardous situations and road conditions.

#### 4. Factors Affecting Traction

There are a number of factors which may affect the traction of your emergency vehicle. The following discussion presents a few examples.

##### a. Hydroplaning

Hydroplaning is caused by the vehicle moving at a high speed over a wet roadway. The wet surface reduces the amount of traction and consequently increases the chances of the operator losing control of the vehicle. Your vehicle actually rides along on top of the water and the tire loses contact with the roadway surface. This occurs especially in heavy rains as tread depth and tire inflation decrease while water depth increases. In a hydroplaning situation, the emergency vehicle operator loses control over the vehicle's direction and speed.

On a straight road, the operator may not be conscious of the hydroplaning. On sharp curves, however, under high speeds, loss of directional control may easily occur. Although it is difficult to ascertain the precise point of the hydroplaning, the factors which cause the condition to occur are evident. These factors are the speed of the vehicle, the direction of the vehicle, the amount of water which the vehicle must pass through,

the depth of the tire tread, and the degree of tire inflation. Hydroplaning, therefore, will most likely occur in situations where the following conditions jointly exist: high speed, sharp turn, heavy rain, minimum tire tread and tire inflation.

b. Rotating vs. Sliding Tires

Traction may also be affected by variations in tire movements which are a result of road surface and/or weather conditions. Directional control may be adversely affected while tires are rotating or spinning but not in the direction desired by the operator. In this instance the vehicle is propelled in an unwanted but rolling motion.

Sliding tires may occur when the braking action has locked in the wheels while at the same time centrifugal force impels the vehicle in a straight line, out of a curve and off the roadway. Sliding tires produce a plowing effect in turns. Both situations, rotating or sliding tires, may result in loss of directional control.

c. Road Surfaces

Different road surfaces provide different degrees of traction. Obviously, dry pavement provides the best traction. Weather conditions, both temperature and moisture (rain, snow, ice, fog), greatly affect the traction level of the roadway surface. Gravel can also be adverse to traction since it prevents the tires from solidly gripping the roadway.

TO CHECK YOUR PROGRESS PLEASE ANSWER THE FOLLOWING QUESTIONS.

Directions: Using your response sheet, circle the letter of the item which most correctly completes the following statements.

6. Centrifugal force is defined as the force of a body in motion:

- a. which tends to keep it continuing in the same direction rather than following a curved path
- b. which tends to make the body move toward, rather than away from, the center
- c. both of the above
- d. neither of the above

7. Tire construction, pressure, and tread:

- a. are important factors which affect maneuverability
- b. fluctuate due to weather conditions
- c. both of the above
- d. neither of the above

8. Hydroplaning:

- a. is most noticeable on sharp curves
- b. most likely occurs with high speed, sharp turn, heavy rain, minimum tire tread and tire inflation
- c. both of the above
- d. neither of the above

Please check your responses with the Key on page 34 and review those items which you missed before proceeding.

## D. Braking

There are several factors which work together to determine stopping time and distance. Among these are roadway conditions, your vehicle's operating condition, and your speed. Your ability to modify or compensate for these factors will determine your ability to avoid serious collisions as well as personal injuries.

### 1. Braking-time Distance

Braking distance is the distance a car travels from the moment pressure is applied to the brakes until it comes to a complete stop. Braking distance increases at a rate equal to the square of the difference in speed. A vehicle going 50 mph, therefore, will require four times the braking distance as one traveling 25 mph. When the speed of the vehicle is doubled, the braking distance is four times as great.

## 2. Perception-time Distance

Perception time is the length of time it takes for a driver to identify a dangerous situation. This perception time will vary according to the driver and the driving conditions. Emergency vehicle operators require excellent visual and perceptual skills in order to shorten the perception time so as to minimize the time taken to recognize dangers. Perception distance is the distance traversed during this period of time.

### 3. Reaction-time Distance

Reaction time is the period of time in which you make a decision to move your foot from the accelerator to the brake pedal. The normal reaction time is  $3/4$  second. The reaction time can be longer for drivers who are ill, exhausted, or under the influence of drugs.

Reaction distance is the distance covered during this period of time.

#### 4. Total Stopping-time Distance

Total stopping distance is the sum of the vehicle operator's perception-time distance, reaction-time distance, and braking-time distance. Figure 37-4 relates all four elements of the stopping-time distance.

The time required to stop normally increases from approximately 2 seconds at 30 mph to over 30 seconds ~~at 60 mph~~. Since the perception varies greatly, this stopping time is critical and allows little room for error.

The factors discussed above demonstrate how important it is to predetermine at least 4 seconds in advance an exact path of travel. The chart presented in Figure 37-5 presents approximate stopping distances for various speeds.

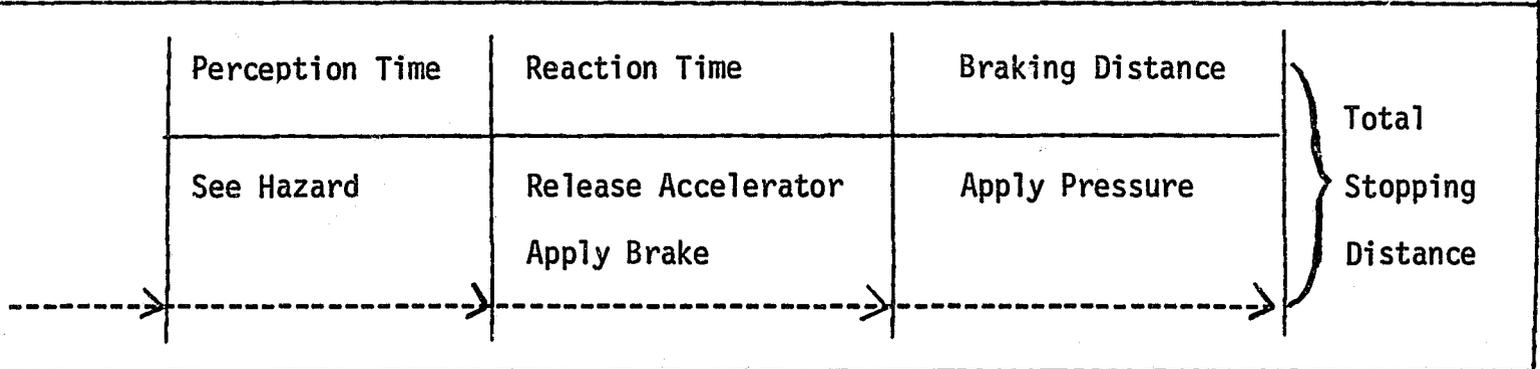


FIGURE 37-4

## STOPPING DISTANCE

Speed MPH	Perception Distance	Reaction Distance	Braking Distance	Total Stopping Distance
20	? ft.	3/4 sec./ 22 ft.	20 ft.	42 ft.
30	? ft.	3/4 sec./ 33 ft.	40 ft.	73 ft.
40	? ft.	3/4 sec./ 44 ft.	73 ft.	117 ft.
50	? ft.	3/4 sec./ 55 ft.	119 ft.	174 ft.
60	? ft.	3/4 sec./ 66 ft.	190 ft.	256 ft.

FIGURE 37-5

## E. Hand Positioning on Steering Wheel

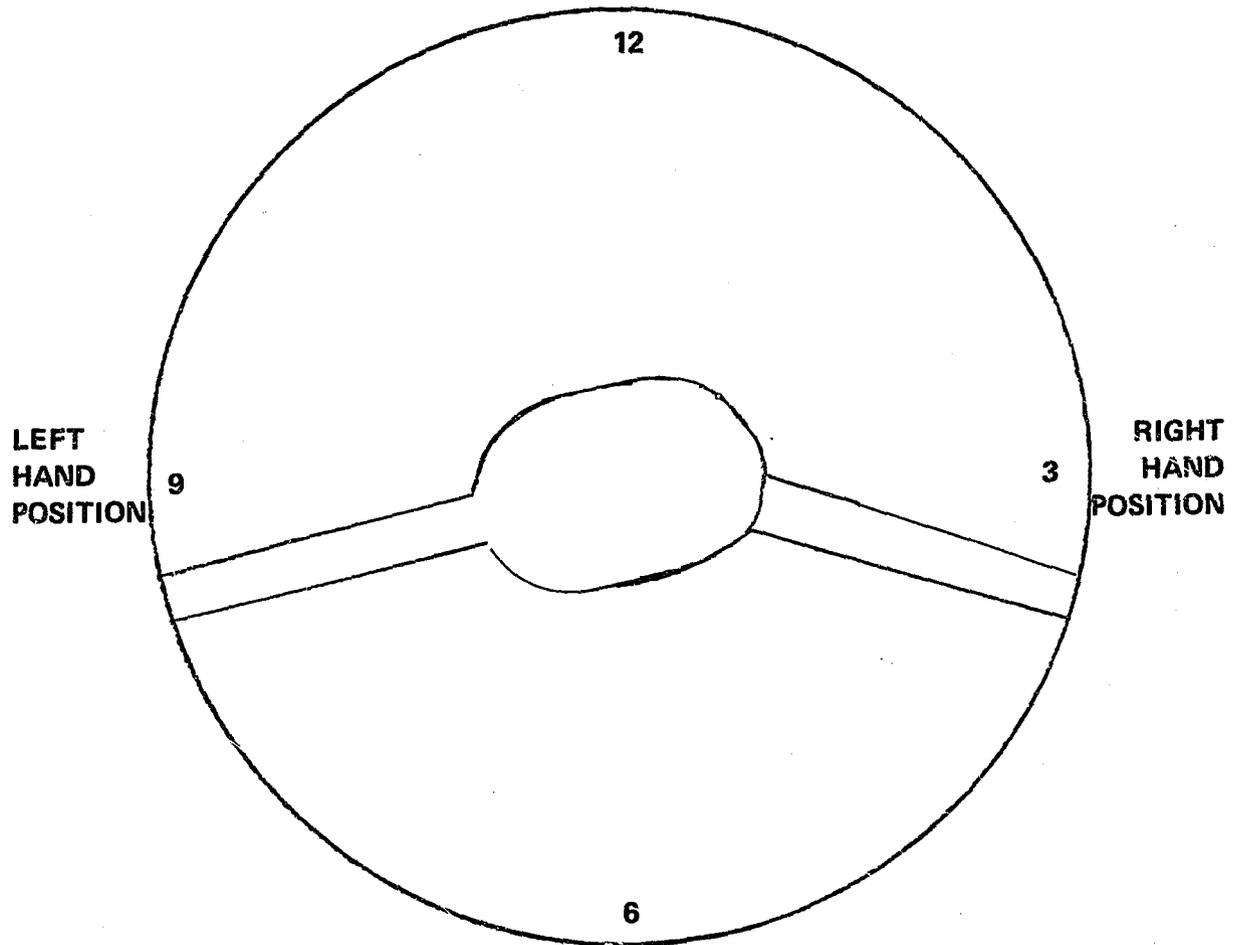
The positioning of your hands on the steering wheel which is recommended above others is the 9:00 o'clock - 3:00 o'clock position. (See Figure 37-6).

In order to steer an emergency vehicle properly and safely the operator should grasp the steering wheel firmly on either side. Imagining the steering wheel as a face of a clock the recommended position is at the location of the 9 and 3. This position allows full turning ability. It provides maximum steering flexibility with full counter-steering control.

A less desirable position is the 10:00 o'clock - 2:00 o'clock position since it does impede full turning ability as well as full counter-steering control. The main advantage of the 10 - 2 position is that it is more comfortable. It does offer the potential for the operator's body movement to affect the steering.

The least desirable steering position is one-handed steering. It is acceptable for routine patrol when the right hand is at the 2:00 o'clock position and the left hand is in close proximity to the 9:00 o'clock position, ready if needed. The one-hand position is not acceptable, however, for any emergency driving situations.

**MOST DESIRABLE STEERING POSITION**



**FIGURE 37 - 6**

## F. Safety Belts

Safety belts, in a lap and shoulder combination, restrain the operator of the emergency vehicle as well as the passenger in the right front seat. The main purpose of the safety belts is to lessen the possibility of the front seat passengers from being hurled forward into the dash or windshield. In a critical emergency, when the vehicle is sliding out of control, the safety belts can keep you behind the wheel to make a last-minute maneuver.

Maryland State law does not require the use of safety belts but rather lets it up to the driver's option. The many advantages for using them, however, especially in the emergency situation should provide strong reason to opt for their use on a volunteer basis. Research gives strong evidence of reduced injuries whenever safety belts are worn, and conversely greater numbers and more disastrous injuries resulting when they are not utilized.

TO CHECK YOUR PROGRESS ANSWER THE FOLLOWING QUESTIONS.

Directions: Using your response sheet, circle the letter of the item which most correctly completes the following statements.

9. Braking-time distance:

- a. increases at a rate equal to the square of the difference
- b. is the distance a car travels from the moment pressure is applied to the brakes until it comes to a complete stop
- c. both of the above
- d. neither of the above

10. Perception-time distance:

- a. is the period of time in which you make a decision to move your foot from the accelerator to the brake pedal
- b. is the length of time it takes a driver to identify a dangerous situation
- c. both of the above
- d. neither of the above

11. The less desirable hand position on the steering wheel is:

- a. 9:00 o'clock - 3:00 o'clock
- b. 10:00 o'clock - 2:00 o'clock
- c. the one-hand position
- d. none of the above

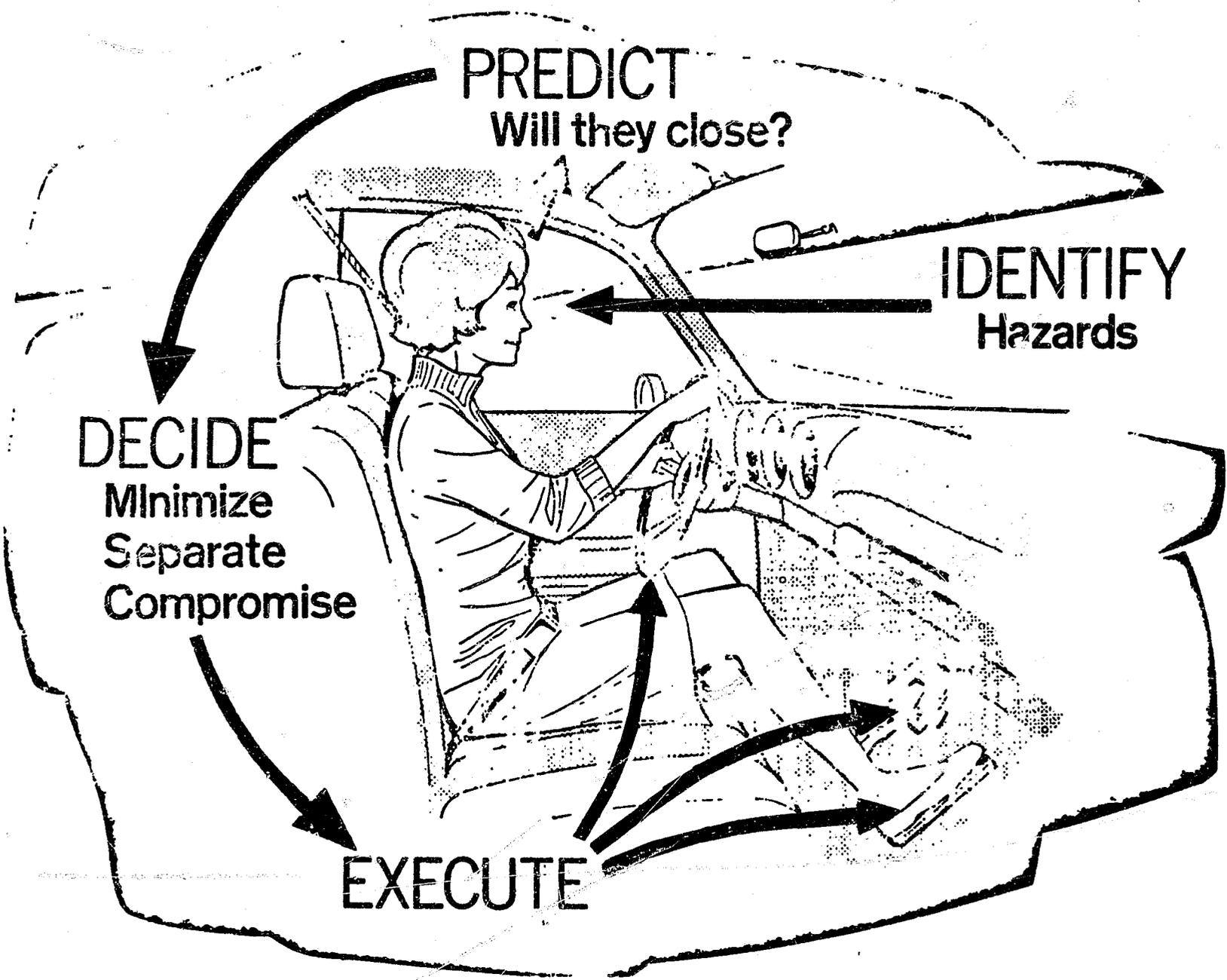
Please check your responses with the Key on page 34 and review those items which you missed before proceeding.

## I P D E

Identify, predict, decide, execute; the terms in and of themselves are simple. The difference between a superficial knowledge and a working understanding of them is the difference that practice, not just driving exposure, can make. (See Figure 37-7.)

If, at the completion of these Emergency Driving Skills Units, you are able to answer the next ten questions, you can be better assured that you possess the ability to become a competent driver.

1. Can you determine the speed at which a driver can maintain maneuvering control?
2. Can you establish the approximate 2, 4, and 12 second reference points?
3. Can you identify the hazards present?
4. Can you cite the factors that could give a driver an advantage?
5. Can you cite the factors that could put a driver at a disadvantage?
6. Can you predict which hazards have the highest probability of closing?
7. Can you apply the "minimize" concept to specific hazards?
8. If applicable, can you apply the "separate" concept to hazards within the situation?



9. Can you apply the "compromise" concept to hazards within the situation?
10. Can you list those driver controls (steering, braking, accelerating) needed to execute the driver's decision?

Unit XXXVII

KEY TO EMBEDDED QUESTIONS

	Refer to Page XXXVII-
1. c	7
2. d	9
3. a	9
4. c	9
5. d	12
6. a	15
7. c	17-18
8. c	19-20
9. c	22
10. b	23
11. b	27

Unit 37

Pretest/Posttest

Use your response sheet for all answers.

Directions: Circle the one item which best completes each of the following sentences.

37.1 Driver action is determined according to the relationship of:

- a. time
- b. distance
- c. speed
- d. all of the above
- e. a and b only
- f. b and c only

37.2 The operator of the emergency vehicle must be able to judge the closing distance of a hazard in relation to the speed of:

- a. the emergency vehicle
- b. other vehicles
- c. both of the above
- d. neither of the above

37.3 Acceleration is

- a. an increase in speed
- b. the time it takes to accelerate from one speed to another
- c. both of the above
- d. neither of the above

37.4 Factors which affect acceleration in an emergency vehicle include:

- a. tire pressure
- b. differential gear ratios
- c. gasoline level
- d. engine horsepower
- e. a and c only
- f. b and d only

37.5 Acceleration capability:

- a. varies with the speed you are driving
- b. decreases as your speed increases
- c. increases in a high-speed situation
- d. all of the above
- e. a and b only
- f. b and c only

37.6 Since gravity affects the speed of the vehicle, driving downhill tends to

- a. decrease speed
- b. increase speed
- c. both of the above
- d. neither of the above

37.7 The ability to maintain steering control is called:

- a. cornering
- b. directional control
- c. deceleration
- d. all of the above

37.8 Proper steering control refers to your emergency vehicle's capability to:

- a. maintain a straight line when it is not influenced by outside factors
- b. move in the same direction in which it has been pointed
- c. both of the above
- d. neither of the above

37.9 Proper tracking is indicated by:

- a. the position of rear wheels in relation to the front wheels
- b. the track left by the front wheels
- c. the track left by the rear wheels
- d. all of the above

Directions: Before each number in Column I, place the letter of definition found in Column II describing the Corresponding steering maneuver. Each letter may be used only once.

Column I	Column II
37.10 Cornering	a. front end moving to the inside of the path of travel while rear end moves to the outside
37.11 Oversteering	b. steering around a turn without losing precise control
37.12 Understeering	c. turning the wheel in the direction of the path of travel
	d. front end moving to the outside of the path of travel while rear end moves to the inside

Directions: Before each number in Column I, place the letter of the characteristic found in Column II that corresponds to observed vehicle problem which may create a steering problem. Each letter may be used only once.

	Column I	Column II
37.13	Vehicles sagging to one side	a. problems in the tires, steering, and/or suspension system
37.14	Overloaded rear of vehicles	b. worn shocks or broken springs
37.15	Top-loaded vehicles (e.g., luggage racks)	c. subject to rear-end spin-outs
37.16	Shimmy and Wobbling	d. maintain better cornering ability
		e. high center of gravity

Directions: Circle the letter of the best statement which completes each of the following sentences.

- 37.17 Centrifugal force is defined as:
- a. the force of a body in motion which tends to make the body move towards, rather than away from, the center
  - b. the force of a body in motion which tends to keep it continuing in the same direction, rather than following a curved path
  - c. both of the above
  - d. neither of the above
- 37.18 Friction is:
- a. the natural law which is at work when the tires of your vehicle operate on the surface of the roadway
  - b. the resistance which results from one surface touching another and moving across its surface
  - c. both of the above
  - d. neither of the above

Directions: Before each number in Column I, place the letter of the traction characteristic found in Column II that corresponds to the tire element. Each letter may be used only once.

Column I	Column II
37.19 Tire construction	a. bias type recommended for best traction
37.20 Tire pressure	b. minimum legal depth is 2/32 inch for proper traction
37.21 Tire treads	c. radial provides best traction
	d. 30% above manufacturer's recommendation for best traction

Directions: Before each number in Column I, place one letter of the result of loss of traction found in Column II that best corresponds to factor affecting traction. Each letter may be used only once.

Column I	Column II
37.22 Hydroplaning	a. plowing effect in turns
37.23 Rotating and Sliding Tires	b. loss of control over direction and speed
37.24 Road surface-Gravel	c. prevents solid gripping of road
	d. spinning into 360° turns

Directions: Before each number in Column I, place the letter of the braking definition found in Column II that best corresponds to the braking factor. Each letter may be used only once.

Column I

Column II

- |                                    |  |
|------------------------------------|--|
| 37.25 Braking-time Distance        | a. period of time in which decision is   |
| 37.26 Perception-time Distance     | made to move foot from accelerator to    |
| 37.27 Reaction-time Distance       | brake pedal                              |
| 37.28 Total Stopping-time Distance | b. perception, reaction, and braking-    |
|                                    | time distance                            |
|                                    | c. distance a car travels from the mom-  |
|                                    | ent pressure is applied to brake until   |
|                                    | it stops                                 |
|                                    | d. time it takes to perceive a hazard    |
|                                    | and make appropriate driving decision    |
|                                    | e. length of time it takes to identify a |
|                                    | dangerous situation                      |
- 
- 37.29 The position of your hands on the steering wheel which is recommended above others is:
- a. 10:00 o'clock - 2:00 o'clock
  - b. 9:00 o'clock - 3:00 o'clock
  - c. 2:00 o'clock - 10:00 o'clock
  - d. none of the above

37.30 For operators of emergency vehicles, use of safety belts:

- a. is required
- b. lessens the chances of personal injury
- c. both of the above
- d. neither of the above

Name \_\_\_\_\_

UNIT 37  
EMERGENCY DRIVING SKILLS, PART V  
PRETEST RESPONSE SHEET

Directions: Circle one correct letter.

- |                |               |
|----------------|---------------|
| 1. a b c d e f | 17. a b c d   |
| 2. a b c d     | 18. a b c d   |
| 3. a b c d     | 19. a b c d   |
| 4. a b c d e f | 20. a b c d   |
| 5. a b c d e f | 21. a b c d   |
| 6. a b c d     | 22. a b c d   |
| 7. a b c d     | 23. a b c d   |
| 8. a b c d     | 24. a b c d   |
| 9. a b c d     | 25. a b c d e |
| 10. a b c d    | 26. a b c d e |
| 11. a b c d    | 27. a b c d e |
| 12. a b c d    | 28. a b c d e |
| 13. a b c d e  | 29. a b c d   |
| 14. a b c d e  | 30. a b c d   |
| 15. a b c d e  |               |
| 16. a b c d e  |               |

Score: \_\_\_\_\_ / 30

Name \_\_\_\_\_

UNIT 37  
EMERGENCY DRIVING SKILLS, PART V  
POSTTEST RESPONSE SHEET

Directions: Circle one correct letter.

- |                |               |
|----------------|---------------|
| 1. a b c d e f | 17. a b c d   |
| 2. a b c d     | 18. a b c d   |
| 3. a b c d     | 19. a b c d   |
| 4. a b c d e f | 20. a b c d   |
| 5. a b c d e f | 21. a b c d   |
| 6. a b c d     | 22. a b c d   |
| 7. a b c d     | 23. a b c d   |
| 8. a b c d     | 24. a b c d   |
| 9. a b c d     | 25. a b c d e |
| 10. a b c d    | 26. a b c d e |
| 11. a b c d    | 27. a b c d e |
| 12. a b c d    | 28. a b c d e |
| 13. a b c d e  | 29. a b c d   |
| 14. a b c d e  | 30. a b c d   |
| 15. a b c d e  |               |
| 16. a b c d e  |               |

Score: \_\_\_\_\_ / 30

Name \_\_\_\_\_

Unit XXXVII

EMERGENCY DRIVING SKILLS, PART V

Embedded Questions Response Sheet

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

**END**