

Student Workbook SW3

Issued To _____

WRITTEN AND PRACTICAL EXERCISES FOR USE WITH

Emergency Vehicle Operation



This Student Workbook Is Compatible With ARIZOFT Courses FSCBL3 and PPP-3



Copyright 2003 Arizoft Software. All Rights Reserved.

Student Workbook SW3

Issued To _____

WRITTEN AND PRACTICAL EXERCISES FOR USE WITH

Emergency Vehicle Operation



This Student Workbook Is Compatible With ARIZOFT Courses FSCBL3 and PPP-3



Arizoft™

Software

Copyright 2003 Arizoft Software. All Rights Reserved.

Student Workbook SW3

Emergency Vehicle Operation

Contents

Introduction

References

Periodic Maintenance Checklist
Braking Distances

Written Exercises

Written Exercises For Introduction
Written Exercises For Chapter/Unit 1
Written Exercises For Chapter/Unit 2
Written Exercises For Chapter/Unit 3

Practical Exercises

Practical Exercises For Chapter/Unit 1
Practical Exercises For Chapter/Unit 2
Practical Exercises For Chapter/Unit 3

Answers To Written Exercises

Training Record

Certificate Of Completion

Student Workbook SW3

Emergency Vehicle Operation

Introduction

Student Workbook SW3 is designed to accompany Arizoft courses FSCBL3 and/or PPP-3, Emergency Vehicle Operation. These courses are designed to meet the standards of NFPA Standard 1002, Chapter 2, *General Requirements for Apparatus Driver/Operators*. Arizoft Software and Geoffrey T. Bohrer assume no liability for the conduct of individuals, either on or off the fireground, and by installing or viewing these materials, you agree to release Arizoft Software and Geoffrey T. Bohrer from any liability arising from injury, malpractice, or misconduct on or off the fireground.

This Student Workbook is provided for your convenience in using Arizoft Emergency Vehicle Operation courses. We suggest two ways of using this Student Workbook:

1. Use the Student Workbook as an outline for note-taking while viewing Emergency Vehicle Operation.
2. Complete the questions for each chapter after viewing to test your learning progress and retention.

Copyright Notice

All photographs in this Program Guide are the sole property of the copyright holder, and may not be reproduced by any means except as defined below, except with the express written permission of the copyright holder. All text and programming is the exclusive property of Arizoft(TM) Software, and may not be reproduced, including for instructional purposes, without the express written permission of Arizoft(TM) Software, except as provided below.

Arizoft(TM) Software authorizes you, the original licensee of this copy of Emergency Vehicle Operation, to make unlimited printed copies of this Student Workbook for your own use or that of persons belonging to your agency. You are not authorized to copy this Program Guide in electronic form. You may not transfer or assign this right to any other person or agency.

PERIODIC MAINTENANCE CHECKLIST

Apparatus: _____ Performed By: _____ Date: _____

Item:	Status:	Comments:
Battery - Condition & Charge	_____	_____
Compartment Doors	_____	_____
Tires - Condition & Pressure	_____	_____
Fluid Leaks	_____	_____
Water & Foam Tank Levels*	_____	_____
Pre-Start - Lights and Indicators	_____	_____
Pre-Start - Voltmeter/ Ammeter*	_____	_____
Starting Sequence	_____	_____
Engine Temperature	_____	_____
Idle Oil Pressure	_____	_____
Fuel Level*	_____	_____
Air Brake System	_____	_____
Head/Tail/Marker Lights	_____	_____
Brake/Backup Lights	_____	_____
Emergency Lights	_____	_____
Interior/ Compartment Lights	_____	_____
Hazard Lights/Turn Signals	_____	_____
Horn/Air Horn	_____	_____
Siren/PA	_____	_____
Radio Check	_____	_____
Steering	_____	_____
Transmission	_____	_____
Driving/Parking Brakes	_____	_____
Pump	_____	_____
Foam System	_____	_____
Onboard Hydraulics/Remote Systems	_____	_____
Wipers	_____	_____
Restraints	_____	_____
Shutdown Sequence	_____	_____
Engine Oil	_____	_____
Transmission/Clutch Fluid	_____	_____
Brake/Steering Fluid	_____	_____
Coolant	_____	_____
Washer Fluid	_____	_____
Belts/Hoses	_____	_____
Filters	_____	_____
Hose Lays/Exterior Eqpt.	_____	_____
Hand Tools/ Hose Eqpt.	_____	_____
SCBA	_____	_____
Power Tools	_____	_____
Generators, Pumps, Compressors	_____	_____
Auxiliaries & Hydraulics	_____	_____
Other _____	_____	_____
Comments: _____	_____	_____

Status Codes: =Checked/Satisfactory; X = Checked/Deficient; O = Not Checked; N/A = Not Applicable

Note deficiencies in comment section

* The actual readings of these items should be recorded, unless policy states otherwise.

NOTE: Some apparatus may require items to be checked in an order other than that shown. Always perform checks in accordance with agency policy and manufacturer's recommendations.

Student Workbook SW3
Written and Practical Exercises For
Emergency Vehicle Operation

AVERAGE REACTION, STOPPING AND BRAKING DISTANCES

Assuming An Alert Driver and Dry, Level Pavement

Stopping and braking distances will be greater on wet or dirt roads.

SPEED (MPH)	Reaction Distance	STOPPING DISTANCE (feet)			BRAKING DISTANCE (feet)		
		Type 6	Pumper	Tender	Type 6	Pumper	Tender
25	28	46	64	80	74	92	108
35	39	92	125	160	131	164	199
45	50	165	210	260	215	260	310
55	61	275	310	390	336	371	451

Student Workbook SW3
Written and Practical Exercises For
Emergency Vehicle Operation

Written Exercises

Student Workbook SW3
Written and Practical Exercises For
Emergency Vehicle Operation

Questions for Introduction:

1. If your department's policy is different from the practices presented in this program, which should you follow? _____

2. What is a self-mobile unit of the fire service called? _____

3. What is the difference between "standard" and "non-standard" apparatus?

4. Motor-vehicle crashes are the biggest killer of firefighters in the US. T / F

Student Workbook SW3
Written and Practical Exercises For
Emergency Vehicle Operation

Questions for Chapter 1:

1. The first building block of safe operation is _____.
2. Preventive maintenance is divided into:

3. The term “circle of safety” refers to _____.
4. Name three items that should be checked during a “circle of safety” check:

5. A major loss of engine oil can lead to _____.
6. Before leaving the station, ensure that all _____ and _____ are disconnected and stowed away from the vehicle.
7. When starting and running apparatus, ensure that all gauges and indicators remain within _____.
8. Unusual sounds, smells, or feels may be early indicators of _____.
9. The term “run-down time” refers to _____.
10. List three items to be checked during a post-operational walkaround inspection:

11. Apparatus should be returned to service _____.

Student Workbook SW3
Written and Practical Exercises For
Emergency Vehicle Operation

Questions for Chapter 1 (continued):

12. Servicing that is not required to be performed by a certified professional is referred to as _____.

13. Define one reportable deficiency for each system or item:

- A. Battery: _____
- B. Tires: _____
- C. Under Vehicle: _____
- D. Gauges/Indicators: _____
- E. Engine Oil: _____
- F. Coolant: _____

14. Equipment tagged as out-of service should not be: _____.

Student Workbook SW3
Written and Practical Exercises For
Emergency Vehicle Operation

Questions for Chapter 2:

1. Always use _____ when driving or riding in fire apparatus.

2. Identify two negative consequences to the community of an apparatus crash:

3. As an apparatus driver/operator, you may be _____ for damages arising from an apparatus crash.

4. Lights and sirens can cause other drivers to _____.

5. Identify the three human factors involved in driving apparatus:

6. Mechanical factors involved in driving include maintenance and _____.

7. Mechanical factors are specific to the vehicle being driven. T / F

8. The central issue in most questions of liability is the issue of _____ versus _____.

9. As the operator of a fire department vehicle, you MAY be _____ some normal traffic laws and regulations.

10. Identify two criteria commonly used for determining negligence:

11. Identify two effects weather can have on driving conditions:

Student Workbook SW3
Written and Practical Exercises For
Emergency Vehicle Operation

Questions for Chapter 2 (continued):

12. Identify three adverse weather conditions:

13. Identify two non-weather related hazardous driving conditions:

14. Braking distance = _____ + _____.

15. The distance the truck will travel in the time it takes you to recognize a hazard and react to it is called _____.

15. The distance the truck travels while the brakes are slowing and stopping it is called _____.

17. What is the distance in feet (according to the table at the front of this workbook) represented by:

- A. Average reaction distance at 45 MPH _____
- B. Total braking distance for a Type 6 brush truck at 55 MPH _____
- C. Stopping distance for a pumper at 35 MPH _____
- D. Stopping distance for a tender at 25 MPH _____
- E. Braking distance for a tender at 55 MPH _____

18. You can reduce total braking distance by driving _____ of the truck and by driving at a _____ speed for conditions.

19. You should maintain a _____ behind vehicles in front of you until they yield.

Student Workbook SW3
Written and Practical Exercises For
Emergency Vehicle Operation

Questions for Chapter 2 (continued):

20. Match the term to its definition:

- | | |
|---------------------------|---------------------------------------|
| A. Centrifugal Force_____ | 1. used to slow the vehicle |
| B. Engine Braking_____ | 2. pulls toward the outside of a turn |
| C. Liquid Surge_____ | 3. caused by inertial action on water |
| D. Skid_____ | 4. the result of a loss of traction |

21. Describe 4 steps for recovering from a skid:

22. Apparatus warning lights can interfere with _____ when seen at night.

23. The chances of encountering a _____ driver are statistically higher at night.

24. Failure to observe height or weight restrictions may result in _____ or the _____ of your apparatus and _____ or _____ to yourself and others.

25. When approaching an intersection, you should come to a _____ and _____ the intersection before proceeding.

26. Match the gauge or indicator with its function:

- | | |
|-----------------------------|--|
| A. Tachometer_____ | 1. Indicates that the PTO is engaged |
| B. Wait to Start_____ | 2. Engine speed |
| C. Speedometer_____ | 3. May indicate incipient overheating |
| D. Check Engine_____ | 4. Glow plugs are warming |
| E. Compound Pressure_____ | 5. Pressure in the airbrake system |
| F. Air Pressure_____ | 6. Ground Speed |
| G. OK to Pump_____ | 7. Water pressure at all discharges |
| H. Coolant Temperature_____ | 8. May indicate an unspecified problem |

Student Workbook SW3
Written and Practical Exercises For
Emergency Vehicle Operation

Questions for Chapter 2 (continued):

27. Emergency vehicles should always be operated in accordance with

28. When backing, always ensure that your _____ are adjusted correctly and that you use a _____.

29. When _____, it is a good idea to use a spotter even when in a forward gear.

Student Workbook SW3
Written and Practical Exercises For
Emergency Vehicle Operation

Questions for Chapter 3:

1. If you are not the first unit on the scene, what are your usual first steps to take upon arrival?

2. If you are the first unit on the scene, you should determine the immediate _____ and report a _____.

3. List four typical responsibilities of a first-in unit:

4. List the five elements of a good sizeup:

5. An area away from the fireground where incoming units wait for employment on the fire scene is called a _____.

6. Name two fireground hazards to look out for when positioning apparatus:

7. Name two possible fireground water supply sources:

Student Workbook SW3
Written and Practical Exercises For
Emergency Vehicle Operation

Questions for Chapter 3 (continued):

8. The positioning and employment of auxiliary vehicles on the fire scene is the responsibility of the _____.
9. As a driver/operator on a wildland fire, you must always remain aware of your _____ and _____.
10. Retain your _____ at all times.
11. Remain in communication with _____ and the _____ using your lines.
12. It is your responsibility to ensure an adequate _____ to supply your fire streams.
13. List the steps required to engage a Power Take Off on an apparatus equipped with an automatic transmission:
- _____
- _____
- _____
14. List the steps required to start a freestanding pump:
- _____
- _____
- _____
- _____
- _____
15. Before charging a line, ensure that the line is _____ and that the nozzle is _____.
16. To avoid water hammer, always open valves _____.
17. Circulating water through the pump constantly keeps it _____.

Student Workbook SW3
Written and Practical Exercises For
Emergency Vehicle Operation

Questions for Chapter 3 (continued):

18. Deployed hoses should be laid out in an _____ pattern and clear of objects and _____.

19. You should announce _____ before introducing water to a line.

20. Master stream devices are used to _____ and to loft water into areas inaccessible to hand lines.

21. Never discharge a master stream into _____.

Student Workbook SW3
Written and Practical Exercises For
Emergency Vehicle Operation

Practical Exercises

Student Workbook SW3
Written and Practical Exercises For
Emergency Vehicle Operation

Practical Exercises for Chapter 1:

Exercise 1-1

Task:

Perform pre-operational checks on an apparatus.

Conditions:

Given a fire department apparatus, agency policies concerning pre-operational checks, and manufacturer's recommendations concerning operation of the apparatus.

Standards:

The student shall correctly perform all required pre-operational checks and report or correct all deficiencies according to agency standards.

Student: _____ Instructor: _____

	Correct	Incorrect
Checks tire pressure visually	_____	_____
Checks doors and compartments	_____	_____
Checks exterior-mounted equipment	_____	_____
Checks for leaks	_____	_____
Removes exterior lines or connections	_____	_____
Checks for foreign objects	_____	_____
Checks tank water level	_____	_____
Starts apparatus properly	_____	_____
Checks all gauges and indicators	_____	_____
Corrects or reports all deficiencies	_____	_____
Does not operate apparatus with unsafe conditions	_____	_____
Demonstrates familiarity with manufacturer's recommendations	_____	_____
TOTAL	_____	_____

For any task not applicable to the apparatus used, award correct credit.

The student must correctly complete 9 tasks to satisfactorily complete this exercise.

Student Workbook SW3
Written and Practical Exercises For
Emergency Vehicle Operation

Exercise 1-2

Task:

Perform post-operational checks.

Conditions:

Given a fire department apparatus, agency policies concerning pre-operational checks, and manufacturer's recommendations concerning operation of the apparatus.

Standards:

The student shall correctly perform all required post-operational checks and report or correct all deficiencies according to agency standards.

Student: _____ Instructor: _____

	Correct	Incorrect
Idles engine for rundown period	_____	_____
Observes gauges and running characteristics	_____	_____
Checks for apparatus damage	_____	_____
Checks exterior equipment	_____	_____
Visually checks tire pressure/ foreign objects in tires	_____	_____
Checks/cleans dirty equipment	_____	_____
Replenishes consumables	_____	_____
Checks/fills water tank	_____	_____
Washes apparatus as necessary	_____	_____
Turns off master battery switch	_____	_____
Performs other checks or services IAW agency policy	_____	_____
Demonstrates familiarity with manufacturer's recommendations	_____	_____
Corrects or reports all deficiencies	_____	_____
TOTAL	_____	_____

For any task not applicable to the apparatus used, award correct credit.

The student must correctly complete 10 tasks to satisfactorily complete this exercise.

Student Workbook SW3
Written and Practical Exercises For
Emergency Vehicle Operation

Exercise 1-3

Task:

Perform required periodic operator maintenance checks and services.

Conditions:

Given a fire department apparatus, agency policies concerning periodic maintenance, and manufacturer's recommendations concerning operation of the apparatus.

Standards:

The student shall correctly perform all required periodic operator-level checks and services and report or correct all deficiencies according to agency standards.

Student: _____ Instructor: _____

	Correct	Incorrect
Checks batteries	_____	_____
Checks door and compartment latches	_____	_____
Checks exterior equipment	_____	_____
Checks tire pressure, tread, and condition	_____	_____
Checks for evidence of leaks	_____	_____
Properly starts apparatus	_____	_____
Observes gauges and indicators	_____	_____
Checks onboard electrical equipment	_____	_____
Checks steering system, transmission, and brakes	_____	_____
Operates onboard hydraulic system	_____	_____
Checks all fluids for level, color, and viscosity as required	_____	_____
Checks all belts, hoses, and filters as required	_____	_____
Corrects or reports all deficiencies	_____	_____
Checks, inventories, and operates assigned equipment	_____	_____
Performs other checks or services IAW agency policy	_____	_____
Demonstrates familiarity with manufacturer's recommendations	_____	_____
TOTAL	_____	_____

For any task not applicable to the apparatus used, award correct credit.

The student must correctly complete 13 tasks to satisfactorily complete this exercise.

Student Workbook SW3
Written and Practical Exercises For
Emergency Vehicle Operation

Practical Exercises for Chapter 2:

Exercise 2-1

Task:

Evaluate the factors contributing to safe operation of an emergency apparatus.

Conditions:

Given a fire department apparatus, agency policies concerning apparatus operating and driver selection, and manufacturer's recommendations concerning operation of the apparatus.

Standards:

The student shall correctly evaluate the factors contributing to his or her safe operation of the specified apparatus.

Student: _____ Instructor: _____

	Correct	Incorrect
Honestly evaluates own attitude	_____	_____
Evaluates own experience	_____	_____
Evaluates own condition	_____	_____
Evaluates vehicle maintenance and condition	_____	_____
Evaluates vehicle performance considerations	_____	_____
TOTAL	_____	_____

The student must correctly complete all tasks to satisfactorily complete this exercise.

Student Workbook SW3
Written and Practical Exercises For
Emergency Vehicle Operation

Exercise 2-2

Task:

Drive an apparatus under non-emergency conditions.

Conditions:

Given a fire department apparatus, agency policies concerning apparatus operation, state and local traffic laws and regulations, and a predetermined route on a public way that incorporates four left and four right turns, a straight section of urban street or two-lane rural road at least one mile long, one through-intersection and two intersections requiring a full stop, one railroad crossing, one curve, a section of highway requiring ramp entrance and exit and long enough to allow at least two lane changes, a downgrade requiring engine braking, an upgrade requiring shifting to maintain speed, and a bridge or underpass having a weight or height restriction. Any requirement not found in the agency's jurisdiction must be simulated as accurately as possible.

Standards:

The student shall negotiate the determined course safely, in accordance with all agency policies and state or local traffic regulations, and with due regard for the safety of the public.

Student: _____ Instructor: _____

	Correct	Incorrect
Ensures that own and passenger restraints are used	_____	_____
Executes turns (grade each turn-total of 8)	_____	_____
Negotiates straight road	_____	_____
Negotiates through-intersection	_____	_____
Negotiates full-stop intersections (total of 2)	_____	_____
Negotiates railroad crossing	_____	_____
Negotiates curve	_____	_____
Negotiates highway entrance and exit (total of 2)	_____	_____
Executes 2 lane changes (total of 2)	_____	_____
Executes engine braking on downslope	_____	_____
Maintains speed on upslope	_____	_____
Evaluates and negotiates or avoids weight/height limits	_____	_____
Complies with all laws, regulations, and agency policies	_____	_____
TOTAL	_____	_____

For any task not applicable to the apparatus used, award correct credit.

The student must correctly complete 20 tasks to satisfactorily complete this exercise.

Student Workbook SW3
Written and Practical Exercises For
Emergency Vehicle Operation

Exercise 2-3

Task:

Back an apparatus into a restricted space.

Conditions:

Given a fire department apparatus, a spotter, a restricted-space course as illustrated on the next page, and agency policies concerning vehicle operation.

Standards:

The student shall correctly and safely back the apparatus into the restricted space, following all spotter signals and not striking any markers, without pulling forward, according to agency standards.

Student: _____ Instructor: _____

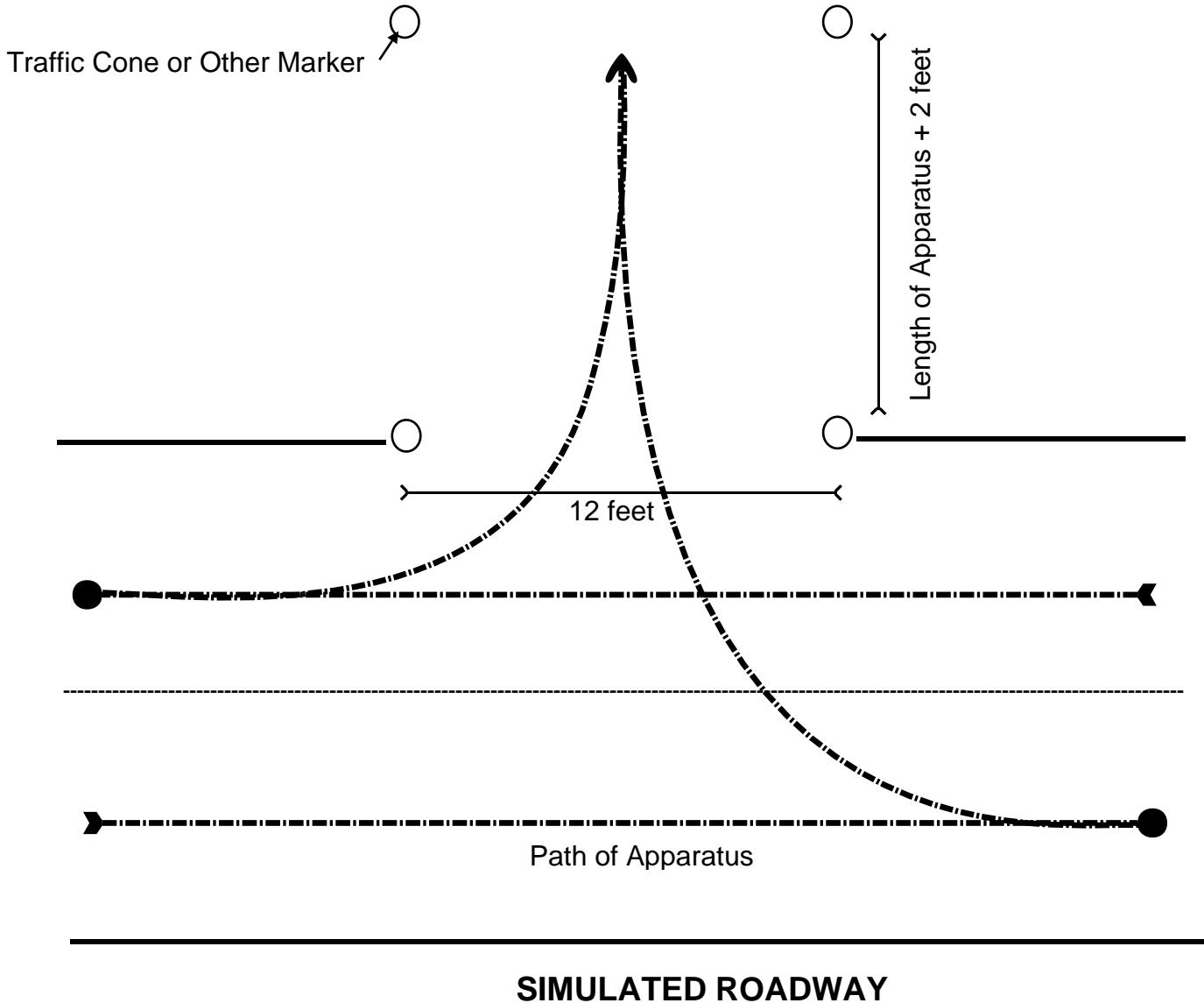
	Correct	Incorrect
WHILE MAKING A LEFT-HAND BACKING TURN:		
Ensures own and passengers' use of restraints	_____	_____
Establishes and maintains visual contact with spotter	_____	_____
Uses mirrors to view sides and rear of apparatus	_____	_____
Does not strike markers	_____	_____
Does not place apparatus in forward gear	_____	_____
Front point of apparatus behind markers when parked	_____	_____
Operates apparatus IAW agency policy	_____	_____
 WHILE MAKING A RIGHT-HAND BACKING TURN:		
Ensures own and passengers' use of restraints	_____	_____
Establishes and maintains visual contact with spotter	_____	_____
Uses mirrors to view sides and rear of apparatus	_____	_____
Does not strike markers	_____	_____
Does not place apparatus in forward gear	_____	_____
Front point of apparatus behind markers when parked	_____	_____
Operates apparatus IAW agency policy	_____	_____
 TOTAL	 _____	 _____

The student must correctly complete all tasks to satisfactorily complete this exercise.

Student Workbook SW3
Written and Practical Exercises For
Emergency Vehicle Operation

Exercise 2-3 (continued):

Course Layout for Exercise 2-3



Student Workbook SW3
Written and Practical Exercises For
Emergency Vehicle Operation

Exercise 2-4

Task:

Maneuver an apparatus on an obstructed roadway.

Conditions:

Given a fire department apparatus, a spotter, an obstructed-roadway course as illustrated on the next page, and agency policies concerning vehicle operation.

Standards:

The student shall correctly and safely drive the vehicle, in both forward and reverse gear, around the obstructions in the roadway without stopping to change direction, in accordance with agency policies.

Student: _____ Instructor: _____

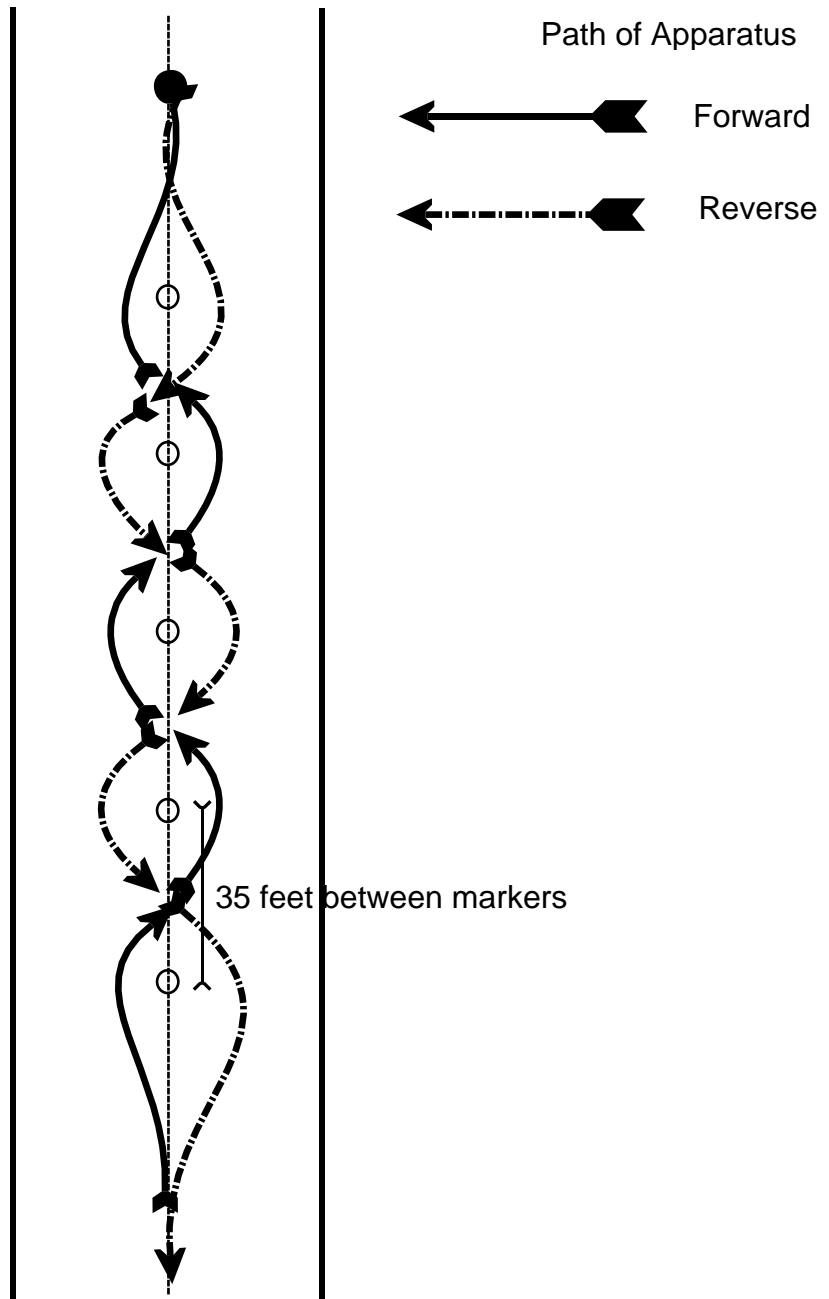
	Correct	Incorrect
Ensures own and passengers' use of restraints	_____	_____
Establishes and maintains visual contact with spotter while in reverse gear	_____	_____
Uses mirrors to view sides and rear of apparatus	_____	_____
Does not strike markers	_____	_____
Does not stop to change direction	_____	_____
Operates apparatus IAW agency policy	_____	_____
TOTAL	_____	_____

The student must correctly complete all tasks to satisfactorily complete this exercise.

Student Workbook SW3
Written and Practical Exercises For
Emergency Vehicle Operation

Exercise 2-4 (continued):

Course Layout for Exercise 2-4



SIMULATED ROADWAY

Student Workbook SW3
Written and Practical Exercises For
Emergency Vehicle Operation

Exercise 2-5

Task:

Turn an apparatus 180 degrees in an area insufficient to make a U-turn.

Conditions:

Given a fire department apparatus, a spotter, a simulated roadway course as illustrated on the next page, and agency policies concerning vehicle operation.

Standards:

The student shall correctly and safely turn the vehicle 180 degrees using a 3-point turn, ending up in the proper lane, in accordance with agency policies.

Student: _____ Instructor: _____

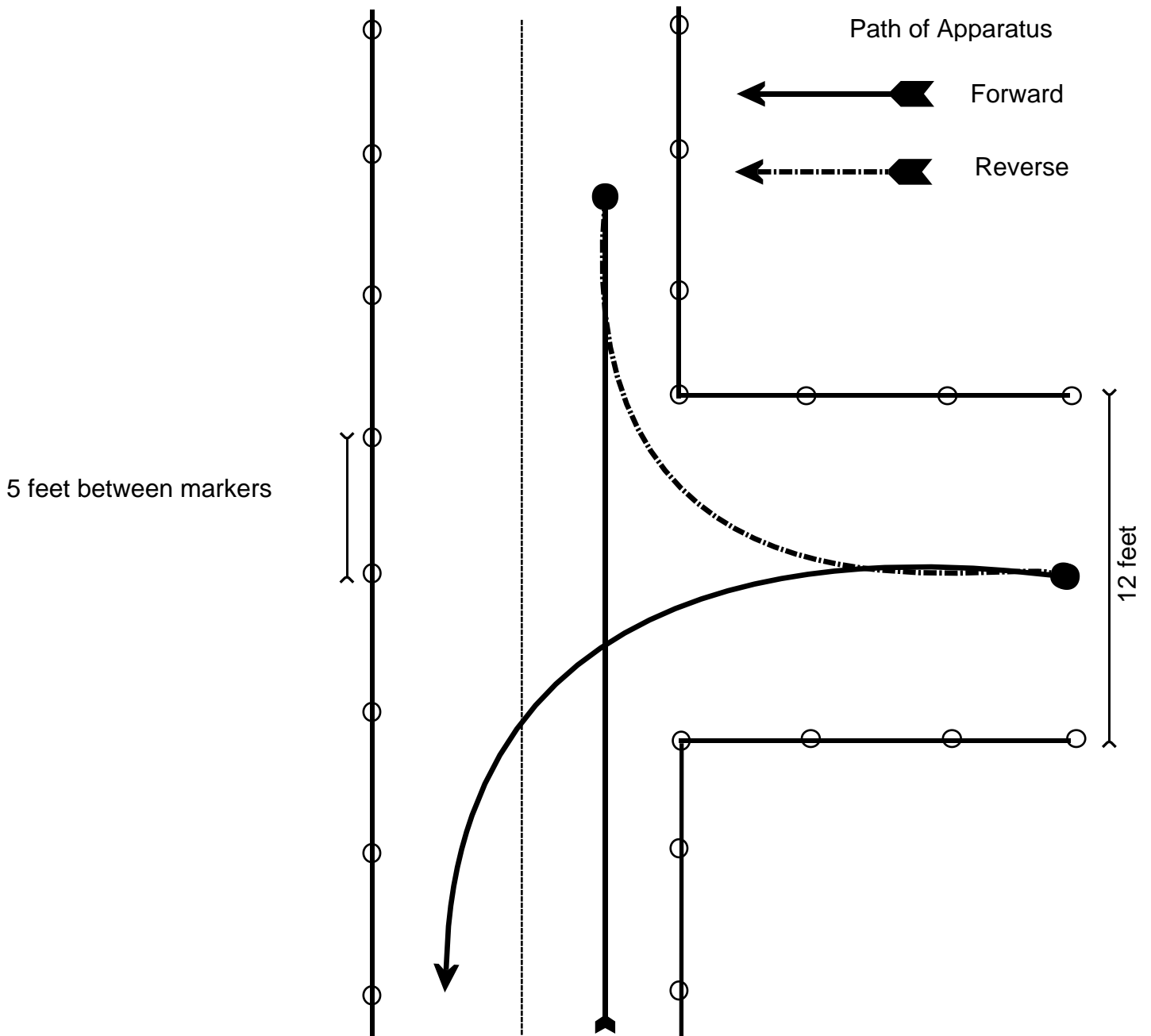
	Correct	Incorrect
Ensures own and passengers' use of restraints	_____	_____
Establishes and maintains visual contact with spotter while in reverse gear	_____	_____
Uses mirrors to view sides and rear of apparatus	_____	_____
Does not strike markers	_____	_____
Operates apparatus IAW agency policy	_____	_____
TOTAL	_____	_____

The student must correctly complete all tasks to satisfactorily complete this exercise.

Student Workbook SW3
Written and Practical Exercises For
Emergency Vehicle Operation

Exercise 2-5 (continued):

Course Layout for Exercise 2-5



SIMULATED ROADWAY

Student Workbook SW3
Written and Practical Exercises For
Emergency Vehicle Operation

Exercise 2-6

Task:

Drive an apparatus in an area with restricted horizontal clearance.

Conditions:

Given a fire department apparatus, a spotter, a diminishing-clearance course as illustrated on the next page, and agency policies concerning vehicle operation.

Standards:

The student shall correctly and safely drive the vehicle through the area of restricted horizontal clearance, in forward and reverse, without striking any markers, in accordance with agency policies. The student shall maintain a minimum speed of 25 miles per hour while in forward gear in the area of restricted horizontal clearance.

Student: _____ Instructor: _____

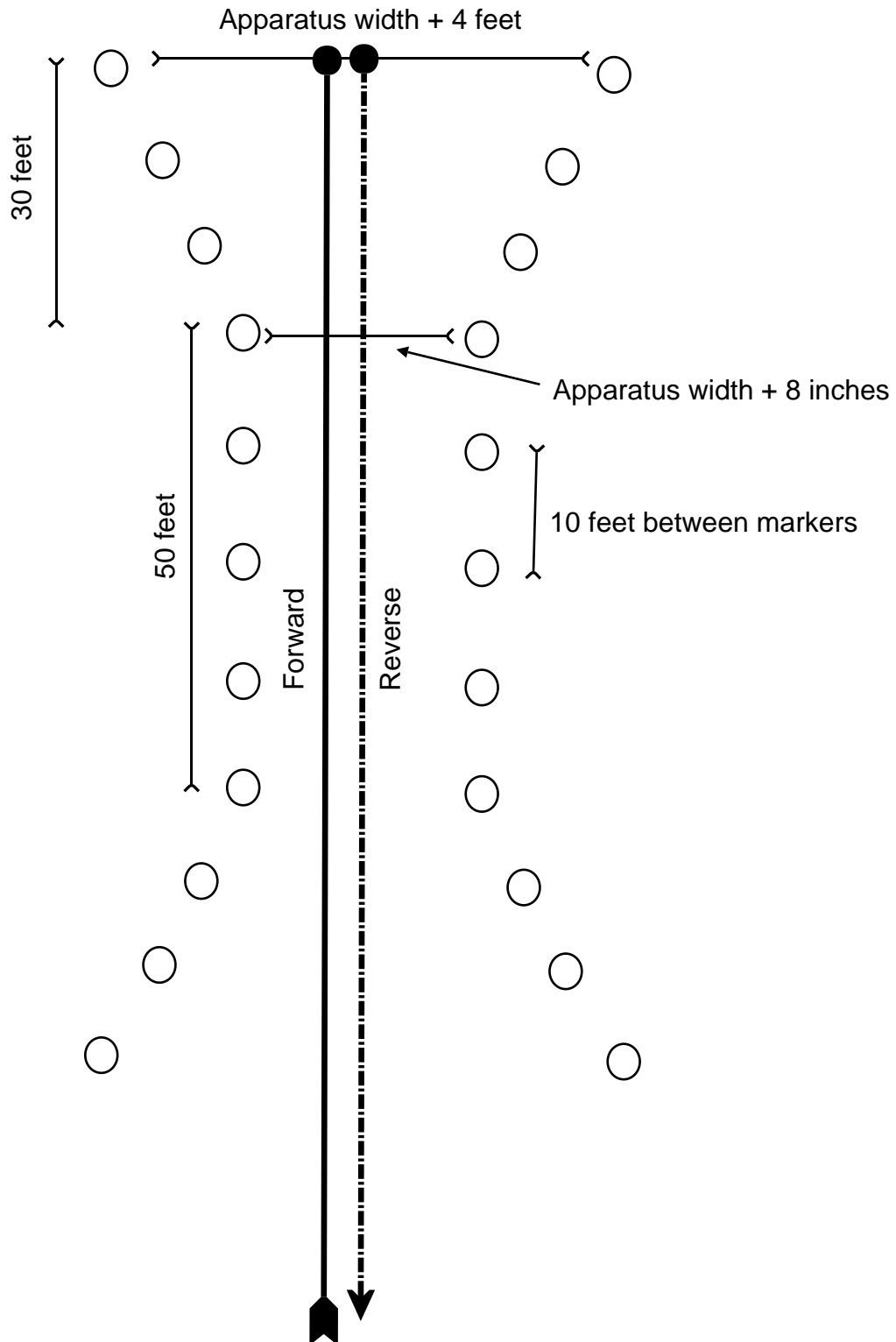
	Correct	Incorrect
Ensures own and passengers' use of restraints	_____	_____
Establishes and maintains visual contact with spotter while in reverse gear	_____	_____
Uses mirrors to view sides and rear of apparatus	_____	_____
Does not strike markers	_____	_____
Verbalizes distance between rear wheels and markers	_____	_____
Operates apparatus IAW agency policy	_____	_____
TOTAL	_____	_____

The student must correctly complete all tasks to satisfactorily complete this exercise.

Student Workbook SW3
Written and Practical Exercises For
Emergency Vehicle Operation

Exercise 2-6 (continued):

Course Layout for Exercise 2-6



Student Workbook SW3
Written and Practical Exercises For
Emergency Vehicle Operation

Exercise 2-7

Task:

Recognize and identify the function of automotive gauges and indicators.

Conditions:

Given a fire department apparatus, manufacturer's recommendations, and agency policies concerning vehicle operation.

Standards:

The student shall correctly identify the listed automotive gauges and indicators and verbalize their functions.

Student: _____ Instructor: _____

	Identify	Function	Total
Speedometer	_____	_____	_____
Tachometer	_____	_____	_____
Coolant Temperature	_____	_____	_____
Oil Pressure	_____	_____	_____
Fuel Level	_____	_____	_____
Check Engine Light	_____	_____	_____
Compartment Open Light	_____	_____	_____
OK to Pump Light	_____	_____	_____
Water Tank Level Indicator	_____	_____	_____
Compound Pressure Gauge	_____	_____	_____
Voltmeter	_____	_____	_____
Air System Pressure Gauge	_____	_____	_____
Air Filter Restriction Gauge	_____	_____	_____
Wait to Start Light	_____	_____	_____
TOTAL			_____

For indicators not present in the apparatus used, award full credit.

The student must be awarded 24 points to satisfactorily complete this exercise.

Student Workbook SW3
Written and Practical Exercises For
Emergency Vehicle Operation

Practical Exercises for Chapter 3:

Exercise 3-1

Task:

Perform the actions required of a first-in attack unit.

Conditions:

Given a fire department apparatus, a simulated fire scene, and agency policies concerning positioning, first-in activities, accountability, and incident command. NOTE: this exercise may be completed using a simulator or other photographic representation; the student must clearly indicate apparatus positioning.

Standards:

The student shall correctly perform all required activities of a first-in attack unit in accordance with agency policies.

Student: _____ Instructor: _____

	Correct	Incorrect
Assesses access routes during approach	_____	_____
Reports arrival to dispatcher	_____	_____
Positions apparatus with awareness of hazards	_____	_____
Assesses immediate life-safety risk	_____	_____
Reports immediate life-safety risk	_____	_____
Reports nature, location, and extent of fire	_____	_____
Reports exposures	_____	_____
Advises incoming units of best access as necessary	_____	_____
Advises incoming units of water supply needs as necessary	_____	_____
Verbally assumes incident command	_____	_____
Activates accountability system IAW agency policy	_____	_____
TOTAL	_____	_____

For any task not applicable to the apparatus used, award correct credit.

The student must correctly complete 9 tasks to satisfactorily complete this exercise.

Student Workbook SW3
Written and Practical Exercises For
Emergency Vehicle Operation

Exercise 3-2

Task:

Position an attack apparatus at a fire scene.

Conditions:

Given a fire department apparatus, a simulated fire scene, and agency policies concerning positioning. NOTE: this exercise may be completed using a simulator or other photographic representation; the student must clearly indicate apparatus positioning.

Standards:

The student shall correctly position the attack apparatus in order to aid the firefighting effort, while ensuring the safety of all personnel and equipment, in accordance with agency policy.

Student: _____ Instructor: _____

	Correct	Incorrect
Reports to incident command	_____	_____
Verbalizes awareness of all fireground hazards	_____	_____
Positions apparatus so as to allow extension of handlines	_____	_____
Position allows employment of master stream device	_____	_____
Position protects apparatus from radiant heat	_____	_____
Position allows communication with supervisor	_____	_____
Position allows communication with attack teams	_____	_____
Position not vulnerable to collapse or explosion	_____	_____
Position facilitates water supply operation	_____	_____
Vehicle is chocked once positioned	_____	_____
TOTAL	_____	_____

For any task not applicable to the apparatus or fireground situation, award correct credit.

The student must correctly complete 8 tasks to satisfactorily complete this exercise.

Student Workbook SW3
Written and Practical Exercises For
Emergency Vehicle Operation

Exercise 3-3

Task:

Operate a PTO-powered fire pump.

Conditions:

Given a fire department apparatus equipped with a fire pump powered with a Power Take Off, an attack team handling a hand line, agency policies concerning pump operation, and manufacturer recommendations.

Standards:

The student shall correctly and safely energize, operate, and de-energize the pump. The student shall charge a handline at the pressure specified by agency policy.

Student: _____ Instructor: _____

	Correct	Incorrect
Places vehicle transmission in neutral	_____	_____
Disengages clutch (standard transmission)	_____	_____
Smoothly operates PTO control	_____	_____
Re-engages clutch OR places transmission in gear	_____	_____
Verifies OK to Pump light	_____	_____
Ensures pump cooling IAW agency policy	_____	_____
Verifies handline properly deployed and controlled	_____	_____
Notifies attack team of intent to charge	_____	_____
Operates valve smoothly when charging line	_____	_____
Sets discharge pressure using hand throttle IAW policy	_____	_____
Reduces pressure and closes discharge valve smoothly	_____	_____
De-energizes pump correctly and safely	_____	_____
TOTAL	_____	_____

For any task not applicable to the apparatus used, award correct credit.

The student must correctly complete 10 tasks to satisfactorily complete this exercise.

Student Workbook SW3
Written and Practical Exercises For
Emergency Vehicle Operation

Answers for Introduction:

1. Use the policies of your agency.
2. Apparatus
3. Standard apparatus was in compliance with the requirements of NFPA 1901 when it was manufactured; nonstandard apparatus did not (or variation - must include NFPA 1901).
4. F (second after heart attacks)

Student Workbook SW3
Written and Practical Exercises For
Emergency Vehicle Operation

Answers for Chapter 1:

1. Maintenance
2. Pre-operational inspection; post-operational inspection; periodic maintenance
3. A pre-operational walkaround inspection (or variation)
4. Any three of: tire inflation, unsecured doors, unsecured equipment, leaks, airlines and electrical lines, overhead obstructions, foreign objects in tire path, exterior water tank gauges (or variation)
5. Engine seizure, engine failure (or variation)
6. Air lines and electrical hookups (or variation)
7. Normal operating range (or variation)
8. Equipment failure
9. A time recommended by the manufacturer to run the engine at idle prior to shutting the engine down (or variation)
10. Any three of : gauges in normal operating range, fuel level, unusual noises, rough running, body damage, unsecured compartments, missing or unsecured external equipment, tire pressure, rocks in tires, replace consumables (or variation)
11. Safety zone
12. As quickly as possible
13. Operator maintenance
14. Corrosion or low charge; damage or low tread; excessive or unusual leaks; outside normal operating range; dirty, leakage, or low level; discoloration, leakage, low level
15. Started or operated

Student Workbook SW3
Written and Practical Exercises For
Emergency Vehicle Operation

Answers for Chapter 2:

1. Seat belts or provided restraints
2. Any two of: deprive fireground of apparatus, create second accident scene, remove apparatus from service; other reasonable answer or variation
3. Liable or responsible
4. Panic or drive erratically
5. Attitude, experience, condition
6. performance
7. true
8. Negligence vs good faith
9. exempt
10. Failed to use reasonable care, injury to another resulted (or variation)
11. Poor visibility, reduced traction
12. Any three of: wind, rain, fog, snow, ice, sand-or-dust storms
13. Any two of sand, oil, mud, water, dust, smoke
14. Reaction distance + stopping distance
15. Reaction distance
16. Stopping distance
17. A. 50; B. 336; C. 125; D. 80; E: 451
18. Ahead, reasonable (or variation)

Student Workbook SW3
Written and Practical Exercises For
Emergency Vehicle Operation

Answers for Chapter 2:

19. Reasonable following distance (or variation)
20. A-2; B-1; C-3; D-4
21. Turn into the skid; release brakes; let up accelerator; when control returns, accelerate gently (or variation)
22. Depth perception
23. Chemically impaired driver
24. Damage; destruction; death; serious injury
25. Full stop; scan
26. A-2; B-4; C-6; D-8; E-7; F-5; G-1; H-3
27. Manufacturer's recommendations
28. Mirrors; ground guide or spotter
29. Maneuvering in close quarters

Student Workbook SW3
*Written and Practical Exercises For
Emergency Vehicle Operation*

Answers for Chapter 3:

1. Report to dispatch
Report to command
2. Life-safety risk, sizeup
3. Determine routes of access; determine life-safety risk; size-up; assume command
4. Life-safety risk; involvement; exposures; access; water supply (or variations)
5. Staging area
6. Any two of: overhead utilities, underground utilities, surface utility storage, radiant heat, explosion, collapse
7. Pressurized, static (or variation)
8. Incident Commander
9. Escape routes, safety zones
10. Situation awareness
11. Your supervisor, attack teams
12. Water supply
13. Place transmission in neutral; operate PTO control; place transmission in gear
14. Open choke; set throttle and switch to "Start"; operate starter; close choke; set throttle for desired pressure
15. Fully deployed; under positive control
16. Smoothly and slowly.
17. cool

Student Workbook SW3
Written and Practical Exercises For
Emergency Vehicle Operation

Answers for Chapter 3 (continued):

18. Accordion; personnel
19. "Charging"
20. Apply large quantities of water
21. Ventilation opening

TRAINING RECORD

Student Name _____ Supervisor _____

Agency _____ Assignment _____

Course: Emergency Vehicle Operation

Exercise	Date Satisfactorily Completed	Trainer
Computer Training Program	_____	_____
Introduction Written Exercises (3 of 4 correct)	_____	_____
Chapter 1 Written Exercises (12 of 15 correct)	_____	_____
Chapter 2 Written Exercises (23 of 29 correct)	_____	_____
Chapter 3 Written Exercises (117 of 21 correct)	_____	_____
Exercise 1-1	_____	_____
Exercise 1-2	_____	_____
Exercise 1-3	_____	_____
Exercise 2-1	_____	_____
Exercise 2-2	_____	_____
Exercise 2-3	_____	_____
Exercise 2-4	_____	_____
Exercise 2-5	_____	_____
Exercise 2-6	_____	_____
Exercise 2-7	_____	_____
Exercise 3-1	_____	_____
Exercise 3-2	_____	_____
Exercise 3-3	_____	_____

By signing below, I certify that:

1. The student above named has satisfactorily completed all requirements outlined in the training program specified above, as indicated, to the best of my knowledge and belief. 2. The authority having jurisdiction over the training of the student above named has accepted the training contained in the training program specified above as satisfying the training requirements of said authority for the tasks and performance requirements addressed in the training. 3. The authority having jurisdiction over the training of the above named student releases Arizoft Software and Geoffrey T. Bohrer of any liability (without limitation) for claims or damages arising from the presentation or performance of the training recommendations contained within this training program, or for the student's subsequent performance or conduct on or off the fireground. 4. I have the authority to make such releases and statements on behalf of the authority having jurisdiction.

(Signature)

(Title)

(Date)

This

Certificate of Completion

is awarded to

in recognition of the successful completion of all course requirements for

Emergency Vehicle Operation

as prescribed by

(Agency or Certifying Authority)

In witness thereto undersigned:

(Date)

(Agency Officer, Title)

Notes