The Committee on Fire Service Professional Standards Development for Fire Fighter Qualifications presents for official adoption the Standard on Fire Apparatus Driver/Operator Professional Qualifications, NFPA No. 1002.

This report has been submitted to letter ballot of the Committee which consists of 17 voting members, of whom 15 have voted affirmatively, and 2 have not returned ballots. Mr. O'Sullivan and Mr. Schaitberger have not returned their ballots.
1-3.6 The fire apparatus driver/operator who is required to operate an apparatus equipped with an elevating platform shall also meet the requirements of Chapter 6 of this Standard.

1-3.7 Each of the performance objectives for the fire apparatus driver/operator shall meet the following criteria: it shall be performed swiftly, safely, and with competence. Each objective shall be met in its entirety.

1-3.8 It is not required for the objectives to be mastered in the order they appear. The local or state training program shall establish the instructional priority and the training program content to prepare individuals to meet the performance objectives of this Standard.

1-3.9 Performance of objectives for qualification covered by this Standard shall be evaluated by three approved individuals from the fire service, one of whom may be from the state or regional fire service training agency.

1-4 Definitions.

1-4.1 Aerial ladder apparatus. A piece of fire apparatus with a permanently mounted, power operated aerial ladder.

1-4.2 Demonstrate. To show by actual use, illustration, simulation, or explanation.

1-4.3 Elevating platform apparatus. A piece of fire apparatus with permanently mounted, power operated booms of articulating construction; or telescoping construction; or a combination of articulating and telescoping construction; and with a passenger carrying platform attached to the uppermost boom.

1-4.4 Fire apparatus. The emergency vehicles of the fire department or fire brigade used for fire suppression which, in this Standard, includes fire department pumpers, aerial ladder apparatus, and elevating platform apparatus.

1-4.5 Fire apparatus driver/operator. The Fire Fighter II who has demonstrated the knowledge of and the ability to perform the objectives specified in Chapters 1, 2, and 3 of this Standard.

1-4.6 Fire brigade. The organization that provides fire rescue, and fire suppression services, and may provide fire prevention services to nongovernmental agencies.

1-4.7 Fire department. The organization that provides fire rescue, fire suppression, and fire prevention services to governmental or nongovernmental agencies.

1-4.8 Fire department pumper. A piece of fire apparatus with a permanently mounted fire pump with a rated discharge capacity of 500 GPM or greater.

1-4.9 Fire department vehicle. Any motorized vehicle that is assigned to the fire department.

*1-4.10 Fire Fighter II. The member of a fire department or a fire brigade who has fulfilled the requirements of Fire Fighter II, as specified in NFPA Standard 1001, Fire Fighter Professional Qualifications, 1974.

1-4.11 Fire pump. Any pump mounted permanently on a piece of fire apparatus, with a rated discharge capacity of 500 GPM or greater.

1-4.12 Identify. To physically select, indicate, or explain verbally or in writing, using standard terms recognized by the Fire Service.

1-4.13 Objective. A goal that is achieved through the attainment of a skill, knowledge, or both, which can be observed or measured.

1-4.14 Qualified. Having satisfactorily completed the requirements of the objectives.

1-4.15 Safely. To perform the objective without injury to self or to others, or damage to fire department vehicles and equipment.

1-4.16 Swiftly. The time, as determined by the authority having jurisdiction, that it takes a qualified fire apparatus driver/operator to perform the objective satisfactorily.

1-4.17 Tiller aerial ladder apparatus. A tractor-trailer aerial ladder apparatus with a steering wheel connected to the third axle for maneuvering the rear portion of the apparatus.

1-4.18 With competence. Possessing knowledge, skills, and judgment needed to perform indicated objective satisfactorily.
Chapter 2  All Fire Department Vehicles

2-1  Preventive Maintenance.

2-1.1 The fire apparatus driver/operator shall demonstrate the performance of routine tests, inspections, and servicing functions required to assure the operational status of fire department vehicles, including:
(a) Battery check
(b) Braking system
(c) Coolant system
(d) Electrical system
(e) Fueling
(f) Lubrication
(g) Oil levels
(h) Tire care
(i) Tools, appliances, and equipment.

2-1.2 The fire apparatus driver/operator shall demonstrate the recording and reporting, as specified by the authority having jurisdiction, of all servicing functions.

2-2  Driving/Operating.

2-2.1 The fire apparatus driver/operator shall be legally licensed to drive fire department vehicles.

*2-2.2 The fire apparatus driver/operator shall be subject to periodic medical evaluation, as specified by the authority having jurisdiction, to determine physical ability adequate for performance of duties as an operator of fire department vehicles.

2-2.3 The fire apparatus driver/operator shall demonstrate, in writing, the correct performance of addition, subtraction, multiplication, and division problems as specified by the authority having jurisdiction.

2-2.4 The fire apparatus driver/operator shall identify all state and local laws, including rules and regulations governing the safe driving and operation of all fire department vehicles of the authority having jurisdiction, including fire department vehicles on emergency response.

2-2.5 The fire apparatus driver/operator, given a fire department vehicle, shall identify all gages and demonstrate their usage.

*2-2.6 The fire apparatus driver/operator, given a fire department vehicle, shall demonstrate the following driving tests:
(a) Serpentine
(b) Alley dock
(c) Opposite alley pull in
(d) Diminishing clearance
(e) Straight line
(f) Turn around.

2-2.7 The fire apparatus driver/operator shall identify and demonstrate the theory and principles of defensive driving techniques particularly as related to emergency response driving.

*2-2.8 The fire apparatus driver/operator, under emergency response conditions, shall legally and safely drive, position, and operate assigned fire department vehicle of the authority having jurisdiction.
Chapter 3  Apparatus Equipped with a Fire Pump

3-1  General.

3-1.1  The fire apparatus driver/operator shall demonstrate the performance of routine tests, inspections, and servicing functions required to assure the operational status of fire department pumper, including:

(a) Battery check
(b) Booster tank level (if applicable)
(c) Braking system
(d) Coolant system
(e) Electrical system
(f) Fueling
(g) Lubrication
(h) Oil levels
(i) Tire care
(j) Tools, appliances, and equipment.

3-1.2  The fire apparatus driver/operator shall identify the operating principles of single stage and multiple stage centrifugal fire pumps.

3-1.3  The fire apparatus driver/operator, given pump models or diagrams, shall identify the major components and trace the flow of water through single stage and multiple stage centrifugal pumps.

3-1.4  The fire apparatus driver/operator shall identify the percentages of rated capacity, rated pressures, and the capacity in gallons per minute at the rated pressures a fire department pumper is designed to deliver.

*3-1.5  The fire apparatus driver/operator, given a fire department pumper and the necessary equipment, shall demonstrate an annual pumper service test.

3-1.6  The fire apparatus driver/operator shall identify the following conditions that may result in pump damage or unsafe operation, and identify corrective measures:

(a) Cavitation
(b) Leaking fuel, oil, or water
(c) Over-heating
(d) Unusual noises
(e) Vibrations
(f) Water hammer.

3-2  Water Supply.

3-2.1  The fire apparatus driver/operator shall identify incrustation, tuberculation, and sedimentation, and the effects on the carrying capacities of water mains.

3-2.2  The fire apparatus driver/operator shall identify the types of hydrants used within the jurisdiction, including descriptions of:

(a) Connection size and type of thread of discharge openings
(b) Construction and operation of drain valve
(c) Direction of operation of the main valve
(d) Internal diameter of hydrant barrel
(e) Maximum friction loss in the hydrant
(f) Procedures and policies of hydrant locations.

3-2.3  The fire apparatus driver/operator shall identify the size of mains and the available fire flows in various areas specified by the authority having jurisdiction.

3-2.4  The fire apparatus driver/operator shall identify problems related to flows from dead end water mains.

3-2.5  The fire apparatus driver/operator, given reference material, shall identify and explain the approximate pressure-discharge relationship for various water pipe sizes.

3-2.6  The fire apparatus driver/operator shall identify the pipe sizes used in water distribution systems for residential, business, and industrial districts served by the authority having jurisdiction.

3-2.7  The fire apparatus driver/operator shall identify at least two causes of increased resistance or friction loss with water flowing in water mains.

3-3  Sprinklers and Standpipes.
3-3.1 The fire apparatus driver/operator, given a check valve on the fire department connection to an automatic sprinkler system, shall demonstrate the direction of flow of water through the valve.

3-3.2 The fire apparatus driver/operator shall demonstrate the method specified by the authority having jurisdiction for augmenting water supplies to sprinkler systems.

3-3.3 The fire apparatus driver/operator, given specific information on a sprinkler system, shall identify the number of sprinkler heads that can be adequately supplied with water by various capacity rated fire department pumpers.

3-3.4 The fire apparatus driver/operator, given specific information on a sprinkler system, shall demonstrate the minimum hose layouts and pump discharge pressure required to adequately supply that sprinkler system.

3-3.5 The fire apparatus driver/operator shall demonstrate the method specified by the authority having jurisdiction for supplying water to a dry standpipe system.

3-3.6 The fire apparatus driver/operator shall demonstrate the method specified by the authority having jurisdiction for supplementing water supplies to a standpipe system.

3-4 Hydraulic Calculations.

3-4.1 The fire apparatus driver/operator shall demonstrate the principles of friction loss as they relate to:
(a) Internal diameter of hose
(b) Length of hose line
(c) Manner in which hose lines are laid
(d) Physical condition of hose
(e) Pressure
(f) Use of appliances
(g) Use of multiple hose lines
(h) Use of various nozzles
(i) Velocity of flow.

3-4.2 The fire apparatus driver/operator shall identify the following types of fluid pressure encountered in the fire service:
(a) Flow pressure
(b) Negative pressure
(c) Normal operating pressure
(d) Residual pressure
(e) Static pressure.

3-4.3 The fire apparatus driver/operator shall identify the following terms that relate to the basic principles of fire service hydraulics:
(a) Atmospheric pressure
(b) Capacity
(c) Displacement
(d) Flow (GPM)
(e) Friction loss
(f) Head pressure (back pressure)
(g) Hydrant pressure
(h) Net engine pressure
(i) Nozzle reaction
(j) Pounds per square inch
(k) Pump discharge pressure
(l) Vacuum
(m) Velocity
(n) Water hammer.

*3-4.4 The fire apparatus driver/operator shall demonstrate the use of proportions in mathematical calculations as required to solve fire department pumper hydraulics problems.

*3-4.5 The fire apparatus driver/operator shall identify and demonstrate the determination and use of square roots as required to solve fire department pumper hydraulic problems.

*3-4.6 The fire apparatus driver/operator shall identify and demonstrate the use of fractions, percentages, and decimal fractions in mathematical calculations as required to solve fire department pumper hydraulic problems.

*3-4.7 The fire apparatus driver/operator shall demonstrate the use of simple algebraic formulas required to solve fire department pumper hydraulic problems.

*3-4.8 The fire apparatus driver/operator, given a series of fire ground situations and using the written formulas specified by the authority having jurisdiction, shall determine:
(a) Nozzle or pump discharge pressures when the length and size of hose, and size of nozzle are given.
(b) Water flow in gallons per minute when the diameter of the orifice and pressure at the orifice are given.
(c) The friction loss in the supply and attack lines, used by the authority having jurisdiction, when the GPM flow is given.
(d) Friction loss in siamesed lines when size of hose and GPM flow are given.
(c) Friction loss in wye'd lines when size of hose and GPM flow are given.

(f) Friction loss in multiple lines when the size of hose and GPM flow are given.

3-4.9 The fire apparatus driver/operator, given a series of fire ground situations, shall calculate correct pump discharge pressure, GPM, friction loss, and nozzle pressure, using mental formulas specified by the authority having jurisdiction.

3-4.10 The fire apparatus driver/operator, given a series of fire ground situations involving various operating pressures, shall demonstrate the formula for calculation of nozzle reaction of hand and master streams used by the authority having jurisdiction.

3-4.11 The fire apparatus driver/operator, given the necessary information, shall compute the maximum lift of a fire department pumper.

3-5 Apparatus Systems.

3-5.1 The fire apparatus driver/operator shall identify three methods of power transfer from the vehicle engine to the pump.

3-5.2 The fire apparatus driver/operator, given a fire department pumper, shall demonstrate the theory and principles of the pumper priming system, and identify at least one alternative method for priming the pump.

3-5.3 The fire apparatus driver/operator, given a fire department pumper, shall demonstrate the theory and principles of the pumper pressure relief system, or pressure control governor, or both.

3-5.4 The fire apparatus driver/operator, given a fire department pumper, shall identify all gages and demonstrate their usage.

3-5.5 The fire apparatus driver/operator, given a fire department pumper, shall identify the auxiliary cooling system, how it functions, and demonstrate how to operate the system.

3-6 Operations.

3-6.1 The fire apparatus driver/operator, given a fire department pumper used by the authority having jurisdiction, shall demonstrate the method(s) of power transfer from vehicle engine to pump.

3-6.2 The fire apparatus driver/operator, given a fire department pumper and a series of fire ground situations, shall produce effective hand and master streams specified by the authority having jurisdiction.

3-6.3 The fire apparatus driver/operator, given a fire department pumper, shall identify the principle of drafting water, and demonstrate a system check when the pumper will not draft.

3-6.4 The fire apparatus driver/operator shall demonstrate how to operate the different types of fire department pumps used by the authority having jurisdiction.

3-6.5 The fire apparatus driver/operator, given a fire department pumper, shall demonstrate, by actual use, procedures for pumping:

(a) From an apparatus water tank
(b) At maximum delivery rate from the apparatus water tank
(c) From a hydrant
(d) From draft
(e) In a relay operation
(f) In a tandem pumping operation
1. Two pumpers in parallel
2. Two pumpers in series.

3-6.6 The fire apparatus driver/operator, given a fire department pumper and a simulated fire scene, shall demonstrate proper maneuvering and positioning of the apparatus to function from the given source of water.

3-6.7 The fire apparatus driver/operator, given a fire department pumper with a multiple stage pump, shall demonstrate the use of the volume/pressure transfer valve under actual pumping conditions.

3-6.8 The fire apparatus driver/operator, given a fire department pumper, shall locate, identify, and demonstrate all equipment carried on or attached to that fire department pumper.

3-6.9 The fire apparatus driver/operator shall identify the characteristics and limitations of hard suction and soft suction pumper supply hose.

3-6.10 The fire apparatus driver/operator, given a selection of nozzles and tips, shall identify the type, design, operation, nozzle pressure, and flow in GPM for proper operation of each.
Chapter 4 Apparatus Equipped with an Aerial Ladder

*4-1 General.

4-1.1 The fire apparatus driver/operator shall demonstrate the performance of routine tests, inspections, and servicing functions required to assure the operational status of fire department aerial ladder apparatus, including:
(a) Battery check
(b) Booster tank level (if applicable)
(c) Braking system
(d) Coolant system
(e) Electrical system
(f) Fueling
(g) Lubrication
(h) Oil levels
(i) Tire care
(j) Tools, appliances, and equipment.

4-1.2 The fire apparatus driver/operator shall identify the following conditions indicating possible aerial ladder apparatus malfunction(s) and identify corrective measures for overcoming the malfunction(s):
(a) Leaking fuel, motor oil, hydraulic fluid, or water
(b) Overheating
(c) Unusual noises
(d) Vibrations.

4-1.3 The fire apparatus driver/operator shall identify the factors affecting the effective range of ladder pipe master streams.

4-1.4 The fire apparatus driver/operator shall identify the causes and hazards of nozzle reaction of ladder pipe master streams.

*4-1.5 The fire apparatus driver/operator, given an aerial ladder apparatus and the necessary equipment, shall demonstrate an aerial ladder test.

*4-1.6 The fire apparatus driver/operator, given an aerial ladder apparatus, shall demonstrate the following driving tests:
(a) Serpentine
(b) Alley dock
(c) Opposite alley pull in
(d) Diminishing clearance
(e) Straight line
(f) Turn around.

4-2 Apparatus Systems.

4-2.1 The fire apparatus driver/operator, given an aerial ladder apparatus, shall demonstrate the principles of that aerial ladder apparatus hydraulic pressure relief system.

4-2.2 The fire apparatus driver/operator, given an aerial ladder apparatus, shall identify all gages and demonstrate their usage.

4-2.3 The fire apparatus driver/operator shall identify the theory and demonstrate principles and operating procedures of aerial ladder apparatus, in use by the authority having jurisdiction, in the following areas:
(a) Cable systems
(b) Communication systems
(c) Electrical systems
(d) Emergency operating systems
(e) Hydraulic systems
(f) Manual systems
(g) Stabilizing systems.

4-2.4 The fire apparatus driver/operator, given an aerial ladder apparatus, shall identify the theory and principles of the safety systems for the aerial ladder as specified by the manufacturer.

*4-2.5 The fire apparatus driver/operator, given an aerial ladder apparatus, shall identify system overrides, and the hazards involved in overriding the systems.

*4-3 Operations.

*4-3.1 The fire apparatus driver/operator shall demonstrate safe operational limitations of aerial ladder apparatus, in use by the authority having jurisdiction, in the following areas:
(a) Angle
(b) Ground conditions
(c) Height
(d) Master stream
(e) Topography
(f) Weather conditions
(g) Weight load
   1. Supported
   2. Unsupported.

4-3.2 The fire apparatus driver/operator shall demonstrate all safety procedures for any given operation involving an aerial ladder apparatus specified by the authority having jurisdiction.
4-3.3 The fire apparatus driver/operator, given an aerial ladder apparatus and a simulated fire scene with the apparatus properly positioned, shall demonstrate the applicable procedures for stabilizing the apparatus in the following areas:

(a) Axle locks (spring locks)
(b) Braking
(c) Outriggers or ground jacks
(d) Wheel chocks.

4-3.4 The fire apparatus driver/operator, given an aerial ladder apparatus in use by the authority having jurisdiction and a simulated fire scene, shall demonstrate proper maneuvering and positioning of the apparatus for rescue and fire fighting operations.

4-3.5 The fire apparatus driver/operator, given an aerial ladder apparatus and a simulated fire scene with the apparatus properly positioned, shall demonstrate operating the aerial ladder in:

(a) Raising
(b) Lowering
(c) Extending
(d) Retracting
(e) Locking
(f) Unlocking
(g) Rotating
(h) Placing to roof
(i) Positioning in window.

4-3.6 The fire apparatus driver/operator shall demonstrate the emergency operating procedures necessary to control aerial ladder apparatus following equipment or power failure.

4-3.7 The fire apparatus driver/operator, given an aerial ladder apparatus, shall demonstrate the method of power transfer from the vehicle or auxiliary engine to the hydraulic or power take-off system for operation of the equipment.

4-3.8 The fire apparatus driver/operator, given an aerial ladder apparatus, shall demonstrate the proper application of lifting and positioning equipment using the aerial ladder.

4-3.9 The fire apparatus driver/operator, given an aerial ladder apparatus, shall locate, identify, and demonstrate all equipment carried on or attached to that aerial ladder apparatus.

Chapter 5 Apparatus Equipped with a Tiller

5-1 Operations.

5-1.1 The fire apparatus driver/operator, given a tiller aerial ladder apparatus, shall demonstrate the signaling system between the tiller operator's position and the driver's compartment.

5-1.2 The fire apparatus driver/operator, given a tiller aerial ladder apparatus, shall demonstrate how to operate the tiller as the apparatus is driven from quarters, and is backed into quarters.

5-1.3 The fire apparatus driver/operator, given a tiller aerial ladder apparatus, shall demonstrate how to operate the tiller as the apparatus is driven both forward and in reverse, including both right and left 90 degree turns in both forward and reverse.

5-1.4 The fire apparatus driver/operator, given a tiller aerial ladder apparatus and simulated or actual on-street and off-street conditions, shall demonstrate how to operate the tiller as the apparatus is driven both forward and in reverse in both on-street and off-street conditions.

5-1.5 The fire apparatus driver/operator, given a tiller aerial ladder apparatus and several different simulated fire ground situations, shall identify and demonstrate how to operate the tiller for positioning the apparatus for use of the aerial ladder.

5-1.6 The fire apparatus driver/operator, given a tiller aerial ladder apparatus with a removable tiller operator's position, if this type of tiller apparatus is used by the authority having jurisdiction, shall demonstrate how to clear the tiller assembly in preparation for raising the aerial ladder.

5-1.7 The fire apparatus driver/operator, given a tiller aerial ladder apparatus, shall identify and demonstrate the duties of the tiller operator when the aerial ladder is being lowered into its bed.

5-1.8 The fire apparatus driver/operator, given a tiller aerial ladder apparatus with a removable tiller operator's position, if this type of tiller apparatus is used by the authority having jurisdiction, shall demonstrate how to restore the tiller assembly for road operation after the aerial ladder has been bedded.
Chapter 6 Apparatus Equipped with an Elevating Platform

*6-1 General.

6-1.1 The fire apparatus driver/operator shall demonstrate the performance of routine tests, inspections, and servicing functions required to assure the operational status of fire department elevating platform apparatus, including:
   (a) Battery check
   (b) Booster tank level (if applicable)
   (c) Braking system
   (d) Coolant system
   (e) Electrical system
   (f) Fueling
   (g) Lubrication
   (h) Oil levels
   (i) Tire care
   (j) Tools, appliances, and equipment.

6-1.2 The fire apparatus driver/operator shall identify the following conditions indicating possible elevating platform apparatus malfunction(s) and identify corrective measures for overcoming the malfunction(s):
   (a) Leaking fuel, motor oil, hydraulic fluid, or water
   (b) Overheating
   (c) Unusual noises
   (d) Vibrations.

6-1.3 The fire apparatus driver/operator shall identify the factors affecting the effective range of elevating platform master streams.

6-1.4 The fire apparatus driver/operator shall identify the causes and hazards of nozzle reaction of elevating platform master streams.

*6-1.5 The fire apparatus driver/operator, given an elevating platform apparatus and the necessary equipment, shall demonstrate the testing of the elevating platform.

*6-1.6 The fire apparatus driver/operator, given an elevating platform apparatus, shall demonstrate the following driving tests:
   (a) Serpentine
   (b) Alley dock
   (c) Opposite alley pull in
   (d) Diminishing clearance
   (e) Straight line
   (f) Turn around.

*6-2 Apparatus Systems.

6-2.1 The fire apparatus driver/operator, given an elevating platform apparatus, shall demonstrate the principles of that elevating platform apparatus hydraulic pressure relief system.

6-2.2 The fire apparatus driver/operator, given an elevating platform apparatus, shall identify all gages and demonstrate their usage.

6-2.3 The fire apparatus driver/operator shall identify the theory and demonstrate principles and operating procedures of elevating platform apparatus, in use by the authority having jurisdiction, in the following areas:
   (a) Cable systems
   (b) Communications systems
   (c) Electrical systems
   (d) Emergency operating systems
   (e) Hydraulic systems
   (f) Manual systems
   (g) Stabilizing systems.

6-2.4 The fire apparatus driver/operator, given an elevating platform apparatus, shall identify the theory and principles of the safety systems for the elevating platform and booms as specified by the manufacturer.

*6-2.5 The fire apparatus driver/operator, given an elevating platform apparatus, shall identify system overrides and the hazards involved in overriding the systems.

*6-3 Operations.

*6-3.1 The fire apparatus driver/operator shall demonstrate safe operational limitations of elevating platform apparatus, in use by the authority having jurisdiction in the following areas:
   (a) Angle
   (b) Ground conditions
   (c) Height
   (d) Master stream
   (e) Topography
   (f) Weather conditions
   (g) Weight load.

6-3.2 The fire apparatus driver/operator shall demonstrate all safety procedures for any given operation involving an elevating platform apparatus specified by the authority having jurisdiction.
6-3.3 The fire apparatus driver/operator, given an elevating platform apparatus and a simulated fire scene with the apparatus properly positioned, shall demonstrate the applicable procedures for stabilizing the apparatus in the following areas:
   (a) Braking
   (b) Outriggers or ground jacks
   (c) Wheel chocks.

6-3.4 The fire apparatus driver/operator, given an elevating platform apparatus in use by the authority having jurisdiction and a simulated fire scene, shall demonstrate proper maneuvering and positioning of the apparatus for rescue and fire fighting operations.

6-3.5 The fire apparatus driver/operator, given an elevating platform apparatus and a simulated fire scene with the apparatus properly positioned, shall demonstrate using the elevating platform in:
   (a) Raising
   (b) Lowering
   (c) Extending (if applicable)
   (d) Retracting (if applicable)
   (e) Locking
   (f) Unlocking
   (g) Rotating
   (h) Placing to roof
   (i) Positioning at window.

6-3.6 The fire apparatus driver/operator shall demonstrate the emergency operating procedures necessary to control elevating platform apparatus following equipment or power failure.

6-3.7 The fire apparatus driver/operator, given an elevating platform apparatus, shall demonstrate the method of power transfer from the vehicle or auxiliary engine to the hydraulic or power take-off systems for operation of the equipment.

6-3.8 The fire apparatus driver/operator, given an elevating platform apparatus, shall demonstrate the proper application of lifting and positioning equipment using the elevating platform.

6-3.9 The fire apparatus driver/operator shall demonstrate all safety procedures for any given operation involving an elevating platform apparatus, as specified by the authority having jurisdiction.
Appendix A

This Appendix is not a part of this NFPA Standard, Fire Apparatus Driver/Operator, but is included for information purposes only.

A-1-3.2 Part of the requirements of Chapter 1 of this Standard state that the fire fighter shall meet the requirements of Fire Fighter II as specified in NFPA Standard 1001, Fire Fighter Professional Qualifications, 1974, before being certified as a fire apparatus driver/operator. This means that the individual applying for certification as a fire apparatus driver/operator has met all of the objectives in Chapters 1, 2, 3, and 4 of Standard 1001. These objectives from Standard 1001 include further requirements in areas such as: fire hose, nozzles and appliances; fire streams; water supplies; and sprinklers, among others. These, of course, are in addition to the requirements of this Standard. Any fire fighter who has already been certified as a Fire Fighter II should review the requirements of the stated chapters in Standard 1001, as the person may be tested on the requirements included therein.

A-1-3.3 See A-1-3.2.

A-1-4.10 See A-1-3.2.

A-2-2.2 Although the frequency of the medical evaluation is not specified, it is recommended that the medical evaluation be given on at least an annual basis.

A-2-2.6 (a) Serpentine. The serpentine exercise measures a driver's ability to steer the apparatus in close limits without stopping. The exercise should be conducted with the apparatus moving first backward then forward. The course or path of travel for this exercise can be established by placing three barrels in a line and spaced 34 feet apart. Adequate space must be provided on each side of the barrels for the apparatus to move freely. A driver is required to drive the apparatus along the left side of the barrels in a straight line and stop just beyond the last barrel. The driver then must back the apparatus between the barrels by passing to the left of No. 1, to the right of No. 2, and to the left of No. 3. At this point, the driver must stop the vehicle and then drive it forward between the barrels by passing to the right of No. 3, to the left of No. 2, and to the right of No. 1.

(b) Alley dock. The alley dock exercise measures a driver's ability to drive past a simulated dock or stall and then back the apparatus into the space provided and stop smoothly. A dock or stall can be simulated by arranging barricades 40 feet from a boundary line. These barricades should be 10 feet apart and the length should be approximately 20 feet. The requirement should cause the driver to pass the barricades with the dock on the left and then back the apparatus by a left turn into the stall.

(c) Opposite alley. The opposite alley exercise measures a driver's ability to steer the apparatus within close limits. This exercise is performed without stopping until a straight line of travel is resumed. Simulated barricades or stanchions may be arranged to provide two alleys 10 feet wide which are separated by a distance equal to the overall length of the apparatus. The 10-foot alley from which the driver must exit is arranged 10 feet out of line to the opposite 10-foot alley into which the driver must maneuver the apparatus. No set speed should be established for this exercise but the driver shall not stop or back the apparatus during the maneuver.
(d) **Diminishing clearance.** This driving exercise measures a driver's ability to steer the apparatus in a straight line, to judge distances from wheel to object, and to stop at a finish line. The speed at which a driver is required to operate the apparatus is optional but it should be adequate to necessitate quick judgment. The course for this exercise is arranged by two rows of stanchions which form a lane 75 feet long. The lane varies in width from 9 feet 6 inches to a diminishing clearance of 8 feet 2 inches. A driver must maneuver the apparatus through this lane without touching stanchions. Fifty feet beyond the last stanchion the driver must stop with the front bumper on the finish line.

(e) **Straight line.** The straight line exercise further measures a driver's ability to travel continuously in one direction without weaving. The driver must steer the apparatus between two rows of rubber balls or stanchions that are spaced every 20 feet. The distance between the balls shall be 4 inches wider than the width of the rear of the apparatus. The direction or run shall be slanted slightly so that the driver must judge the distances and direction by the rubber balls or stanchions as a guide. A minimum distance of 100 feet should be used for this exercise and the driver must accelerate through the gears without stopping.

(f) **Turning around.** Fire apparatus, particularly fire department pumpers, often need to turn around to complete an operation. Turning around exercises further develop a driver's ability to properly spot the apparatus for operation procedures. Although turning fire apparatus around may not be difficult in adequate space, it becomes more complicated in streets or intersections. Turning around in streets should be used when possible. Turning around is frequently necessary when laying fire hose and care must be taken to not back over the hose. If streets are adequately wide and if traffic permits, the U-turn may be used. The following illustrated methods of turning around are suggested for an intersection turn around.

A-3-1.7 See A-2-2.6.

A-3-4.4 A fire apparatus driver/operator's ability to accomplish hydraulic equations will depend on that person's success with mathematics. The fire apparatus driver/operator should demonstrate a competent knowledge of basic mathematics.

A-3-4.5 See A-3-4.4.

A-3-4.6 See A-3-4.4.

A-3-4.7 See A-3-4.4.

A-3-4.8 3-4.8(b) is intended to be performed using smooth bore, straight stream nozzles.

A-4-1 It is not the intent to create an unsafe or damaging condition in the performance of any objective in this chapter. Safety and the safe operation of the equipment must be of primary consideration. The fire apparatus driver/operator should be well-familiar with the manufacturer's recommendations in regards to safety, load limitations, operations, and system functions of the aerial ladder apparatus. At all times the fire apparatus driver/operator should be concerned with the safe operation of the apparatus, and should not, at any time, override any safety system.

A-4-1.5 An aerial ladder test is outlined in NFPA Standard 193, Fire Department Ladders, Ground and Aerial, 1972.

A-4-1.6 See A-2-2.6.

A-4-2 See A-4-1.

A-4-2.5 See A-4-1.

A-4-3 See A-4-1.

A-4-3.1 See A-4-1.

A-4-3.8 The fire apparatus driver/operator should be familiar with properly and safely securing any equipment to be raised using the aerial ladder, and should be knowledgeable of the manufacturer's load stress recommendations.

A-6-1 It is not the intent to create an unsafe or damaging condition in the performance of any objective in this chapter. Safety and the safe operation of the equipment must be of primary consideration. The fire apparatus driver/operator should be well-familiar with the manufacturer's recommendations in regards to safety, load limitations, operations, and system functions of elevating platform apparatus. At all times the fire apparatus driver/operator should be concerned with the safe operation of the apparatus, and should not, at any time, override any safety system.

A-6-1.5 An elevating platform test is outlined in NFPA Standard 193, Fire Department Ladders, Ground and Aerial, 1972.

A-6-1.6 See A-2-2.6.

A-6-2 See A-6-1.

A-6-2.5 See A-6-1.

A-6-3 See A-6-1.

A-6-3.1 See A-6-1.

A-6-3.8 The fire apparatus driver/operator should be familiar with properly and safely securing any equipment to be raised using the elevating platform apparatus, and should be knowledgeable of the manufacturer's load stress recommendations.
Appendix B

This Appendix is not a part of this NFPA Standard, but is included for information purposes only.

B-1-1 Bibliography.

B-1-1.1 This list is not to be considered a study guide for qualification purposes. These materials were used to assist the Committee in compiling this Standard.


**Handling Hose and Ladders**, NFPA, 1969.


B-1-2 Publishers’ addresses.

Donnelly, R. H. Corp., 466 Lexington Avenue, New York, NY 10017.

Glencoe Press, 870 Wilshire Boulevard, Beverly Hills, CA 90211.

Grid Inc., 4145 North High Street, Columbus, OH 43214.

Insurance Services Office (ISO), 160 Water Street, New York, NY 10038.

International Fire Service Training Association (IFSTA), Fire Protection Publications. Oklahoma State University, Stillwater, OK 74074.


National Fire Protection Association (NFPA), 470 Atlantic Avenue, Boston, MA 02210.

B-1-3 There are many other suitable fire service training publications that may be used to prepare individuals to meet performance objectives. Fire fighters may wish to consult their training personnel for additional sources.