

CERTIFICATION CURRICULUM MANUAL

CHAPTER SEVEN

DRIVER/OPERATOR

NFPA 1002, 2017 Edition

Effective January 1, 2020



Texas Commission on Fire Protection
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CERTIFICATION CURRICULUM MANUAL – CHAPTER SEVEN

DRIVER/OPERATOR PUMPER

OVERVIEW

DRIVER/OPERATOR – PUMPER

The Driver/Operator – Pumper is required to meet the Job Performance Requirements (JPRs) of chapters 4 and 5 of National Fire Protection Association (NFPA) 1002, *Standard for Fire Apparatus Driver/Operator Professional Qualifications*, 2017 edition.

The following items are included in the Driver/Operator – Pumper section of Chapter 7 of the curriculum manual:

- Course Instructor Information
- Reference List (textbooks and other recommended course materials)
- Course Outline (establishes the recommended hours for teaching this course)

This is a voluntary (non-mandatory) certification, therefore a formal “curriculum” is not provided. Please use chapters 4 and 5 of NFPA 1002 as a guide when creating your own course curriculum.

Performance skills are available in Chapter 7 of the Skills Manual.

All documents in this curriculum manual, and in the skills manual, are available free of charge to download, copy and distribute as necessary. The TCFP does not provide printed copies.

Definition of a Driver/Operator

A Driver/Operator is an individual who has met the requirements of NFPA 1002, *Standard for Fire Apparatus Driver/Operator Professional Qualifications* and has the knowledge, skills, and abilities to drive and operate an apparatus by having and maintaining a knowledge of:

- Apparatus inspections and basic maintenance
- Best practices for ensuring the safety of all personnel riding in the apparatus while it's in motion
- Techniques for safe driving of an apparatus to and from an incident scene
- Appropriate positioning of the apparatus to maximize effectiveness
- Techniques for safe operation of apparatus equipment and components

COURSE INSTRUCTOR INFORMATION

Instructor Qualifications

Driver/Operator courses must be taught by a person meeting the requirements described in Chapter 427§307 of the TCFP Standards Manual.

Supplemental Information

Instructors are expected to provide supplemental information if the main reference text does not cover all of the knowledge requirements set forth in the NFPA standard.

Certification Testing

Testing for certification in the state of Texas will be based on the knowledge and skills requirements of National Fire Protection Association (NFPA) 1002, *Standard for Fire Apparatus Driver/Operator Professional Qualifications*, 2017 edition. Chapters 4 and 5 will be used for Driver/Operator – Pumper. Chapters 4 and 6 will be used for Driver/Operator – Aerial. All training programs must strictly adhere to the NFPA standard.

All test questions and performance skills evaluations will be based on the NFPA Job Performance Requirements (JPRs), requisite knowledge objectives, and requisite skills objectives found in the NFPA standard. Additionally, questions and performance skill evaluations may include information found in, or derived from, the NFPA standard annex, particularly Annex A, which includes explanatory material that may further clarify JPRs. The following is an example from NFPA 1002, section 5.2.4:

NFPA Standard/Curriculum	Explanation
5.2.4 Produce effective hand or master streams, given the sources specified in the following list, so that the pump is engaged, all pressure control and vehicle safety devices are set, the rated flow of the nozzle is achieved and maintained, and the apparatus is monitored for potential problems: (1) Internal tank (2) Pressurized source (3) Static source (4) Transfer from internal tank to external source	NFPA JPR number 5.2.4
(A) Requisite Knowledge: Hydraulic calculations for friction loss and flow using both written formulas and estimation methods, safe operation of the pump, problems related to small-diameter or dead-end mains, low-pressure and private water supply systems, hydrant coding systems, and reliability of static sources.	Requisite knowledge objectives for 5.2.4 Written test questions and/or performance skills will be used to test these knowledge

	components on the state certification exam.
(B) Requisite Skills: The ability to position a fire department pumper to operate at a fire hydrant and at a static water source, power transfer from vehicle engine to pump, draft, operate pumper pressure control systems, operate the volume/pressure transfer valve (multistage pumps only), operate auxiliary cooling systems, make the transition between internal and external water sources, and assemble hose lines, nozzles, valves, and appliances.	Requisite skills objectives for 5.2.1 Only performance skills will be used to test these objectives on the state certification exam.
A.5.2.4(2): Pressurized sources include the following: (1) Connection to a hydrant (2) Supply line from another pumping source	Appendix A: Explanatory Material for 5.2.1(2)

TCFP Standards Manual

It is critical that the Course Instructor review the chapters in the TCFP Standards Manual that apply to this curriculum. Of primary importance are the following chapters:

- Chapter 421, *Standards for Certification*
- Chapter 427, *Training Facility Certification*
- Chapter 435, *Fire Fighter Safety*
- Chapter 437, *Fees*
- Chapter 433, *Standards for Driver/Operator*

These chapters do not address every issue that could impact this curriculum; therefore, the Course Instructor is encouraged to become familiar with the TCFP Standards Manual.

Descriptions of Certification Levels

For additional information, see Chapter 421 of the Texas Commission on Fire Protection Standards Manual for Fire Protection Personnel.

CHAPTER SEVEN
DRIVER/OPERATOR-PUMPER
CURRICULUM OUTLINE

SECTION	SUBJECT	RECOMMENDED HOURS
701-4.1	General	2
701-4.2	Preventive Maintenance	8
701-4.3	Driving/Operating	16
701-5.1	General	8
701-5.2	Operations	26
	TOTAL RECOMMENDED HOURS*	60

*Actual hours required will depend on the number of students, the number of examiners, availability of equipment, and the student skill level.

NFPA 1002 section 4.4 is covered in the Basic Fire Suppression Curriculum (Prerequisite).

REFERENCE LIST FOR THE DRIVER/OPERATOR-PUMPER CURRICULUM

Certified Training Facilities approved to teach this curriculum, must have the following reference materials:

Fire Apparatus Driver/Operator: Pump, Aerial, Tiller and Mobile Water Supply (3rd ed.)
Burlington, MA: Jones and Bartlett Publishers.

NFPA 1002: Standard on Fire Apparatus Driver/Operator Professional Qualifications (2017 ed.)
Quincy, MA: National Fire Protection Association. NFPA Publications.

NFPA 1901, Standard for Automotive Fire Apparatus, (2016 ed.) Quincy, MA: National Fire
Protection Association. NFPA Publications.

Pumping and Aerial Apparatus Driver/Operator Handbook (3rd ed.). Stillwater, OK: Fire
Protection Publications. International Fire Service Training Association.

Standards Manual for Fire Protection Personnel. Austin, TX: Texas Commission on Fire
Protection.

CERTIFICATION CURRICULUM MANUAL – CHAPTER SEVEN

DRIVER/OPERATOR AERIAL

OVERVIEW **DRIVER/OPERATOR – AERIAL**

The Driver/Operator – Aerial is required to meet the Job Performance Requirements (JPRs) of chapters 4 and 6 of National Fire Protection Association (NFPA) 1002, *Standard for Fire Apparatus Driver/Operator Professional Qualifications*, 2017 edition.

The following items are included in the Driver/Operator – Aerial section of Chapter 7 of the curriculum manual:

- Course Instructor Information
- Reference List (textbooks and other recommended course materials)
- Course Outline (establishes the recommended hours for teaching this course)

This is a voluntary (non-mandatory) certification, therefore a formal “curriculum” is not provided. Please use chapters 4 and 6 of NFPA 1002 as a guide when creating your own course curriculum.

Performance skills are available in Chapter 7 of the Skills Manual.

All documents in this curriculum manual, and in the skills manual, are available free of charge to download, copy and distribute as necessary. The TCFP does not provide printed copies.

Definition of a Driver/Operator

A Driver/Operator is an individual who has met the requirements of NFPA 1002, *Standard for Fire Apparatus Driver/Operator Professional Qualifications* and has the knowledge, skills, and abilities to drive and operate an apparatus by having and maintaining a knowledge of:

- Apparatus inspections and basic maintenance
- Best practices for ensuring the safety of all personnel riding in the apparatus while it's in motion
- Techniques for safe driving of an apparatus to and from an incident scene
- Appropriate positioning of the apparatus to maximize effectiveness
- Techniques for safe operation of apparatus equipment and components

COURSE INSTRUCTOR INFORMATION

Instructor Qualifications

Driver/Operator courses must be taught by a person meeting the requirements described in Chapter 427§307 of the TCFP Standards Manual.

Supplemental Information

Instructors are expected to provide supplemental information if the main reference text does not cover all of the knowledge requirements set forth in the NFPA standard.

Certification Testing

Testing for certification in the state of Texas will be based on the knowledge and skills requirements of National Fire Protection Association (NFPA) 1002, *Standard for Fire Apparatus Driver/Operator Professional Qualifications*, 2017 edition. Chapters 4 and 5 will be used for Driver/Operator – Pumper. Chapters 4 and 6 will be used for Driver/Operator – Aerial. All training programs must strictly adhere to the NFPA standard.

All test questions and performance skills evaluations will be based on the NFPA Job Performance Requirements (JPRs), requisite knowledge objectives, and requisite skills objectives found in the NFPA standard. Additionally, questions and performance skill evaluations may include information found in, or derived from, the NFPA standard annex, particularly Annex A, which includes explanatory material that may further clarify JPRs. The following is an example from NFPA 1002, section 5.2.4:

NFPA Standard/Curriculum	Explanation
5.2.4 Produce effective hand or master streams, given the sources specified in the following list, so that the pump is engaged, all pressure control and vehicle safety devices are set, the rated flow of the nozzle is achieved and maintained, and the apparatus is monitored for potential problems: (1) Internal tank (2) Pressurized source (3) Static source (4) Transfer from internal tank to external source	NFPA JPR number 5.2.4
(A) Requisite Knowledge: Hydraulic calculations for friction loss and flow using both written formulas and estimation methods, safe operation of the pump, problems related to small-diameter or dead-end mains, low-pressure and private water supply systems, hydrant coding systems, and reliability of static sources.	Requisite knowledge objectives for 5.2.4 Written test questions and/or performance skills will be used to test these knowledge components on the

	state certification exam.
(B) Requisite Skills: The ability to position a fire department pumper to operate at a fire hydrant and at a static water source, power transfer from vehicle engine to pump, draft, operate pumper pressure control systems, operate the volume/pressure transfer valve (multistage pumps only), operate auxiliary cooling systems, make the transition between internal and external water sources, and assemble hose lines, nozzles, valves, and appliances.	Requisite skills objectives for 5.2.1 Only performance skills will be used to test these objectives on the state certification exam.
A.5.2.4(2): Pressurized sources include the following: (1) Connection to a hydrant (2) Supply line from another pumping source	Appendix A: Explanatory Material for 5.2.1(2)

TCFP Standards Manual

It is critical that the Course Instructor review the chapters in the TCFP Standards Manual that apply to this curriculum. Of primary importance are the following chapters:

- Chapter 421, *Standards for Certification*
- Chapter 427, *Training Facility Certification*
- Chapter 435, *Fire Fighter Safety*
- Chapter 437, *Fees*
- Chapter 433, *Standards for Driver/Operator*

These chapters do not address every issue that could impact this curriculum; therefore, the Course Instructor is encouraged to become familiar with the TCFP Standards Manual.

Descriptions of Certification Levels

For additional information, see Chapter 421 of the Texas Commission on Fire Protection Standards Manual for Fire Protection Personnel.

CHAPTER SEVEN
DRIVER/OPERATOR-AERIAL
CURRICULUM OUTLINE

SECTION	SUBJECT	RECOMMENDED HOURS
702-4.1	General	2
702-4.2	Preventive Maintenance	8
702-4.3	Driving/Operating	16
702-6.1	General	8
702-6.2	Operations	16
	TOTAL RECOMMENDED HOURS*	50

*Actual hours required will depend on the number of students, the number of examiners, availability of equipment, and the student skill level.

Note - NFPA 1002 section 4.4 is covered in the Basic Fire Suppression Curriculum (Prerequisite).

REFERENCE LIST FOR THE DRIVER/OPERATOR-AERIAL CURRICULUM

Certified Training Facilities approved to teach this curriculum, must have the following reference materials:

Fire Apparatus Driver/Operator: Pump, Aerial, Tiller, and Mobile Water Supply (2nd ed.). Burlington, MA: Jones & Bartlett Learning.

NFPA 1002: Standard on Fire Apparatus Driver/Operator Professional Qualifications (2017 ed.). Quincy, MA: National Fire Protection Association. NFPA Publications.

NFPA 1901, Standard for Automotive Fire Apparatus, (2016 ed.). Quincy, MA: National Fire Protection Association. NFPA Publications.

Pumping and Aerial Apparatus Driver/Operator Handbook (3rd ed.). Stillwater, OK: Fire Protection Publications. International Fire Service Training Association.

Standards Manual for Fire Protection Personnel. Austin, TX: Texas Commission on Fire Protection.