

# Fire Apparatus Driver/Operator

## (NFPA 1010: Standard on Professional Qualifications for Firefighters)

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### Certification Training Standards Guide (2024)



California Department of Forestry and Fire Protection  
Office of the State Fire Marshal  
State Fire Training

# Fire Apparatus Driver/Operator

## Certification Training Standards Guide (2024)

**Publication Date:** September 2026

This CTS guide utilizes the following NFPA standards to provide the qualifications for State Fire Training's Standard for Apparatus Driver/Operator (2024) certification:

- NFPA 1010: Standard on Professional Qualifications for Firefighters (2024)

State Fire Training coordinated the development of this CTS guide. Before its publication, the Statewide Training and Education Advisory Committee (STEAC) and the State Board of Fire Services (SBFS) recommended this CTS guide for adoption by the Office of the State Fire Marshal (OSFM).

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## How to Read a CTS Guide

### Overview

A certification training standard (CTS) guide lists the requisite knowledge, skills, and job performance requirements an individual must complete to become certified in a specific job function.

It also documents and justifies the OSFM-approved revisions to the certification's NFPA standard and identifies where each certification training standard is taught (course plan), tested (skill sheets), and validated (task book).

Individuals aspiring to meet State Fire Training's certification training standards must do so in accordance with the codes, standards, regulations, policies, and standard operating procedures applicable within their own agency or jurisdiction.

### Format

Each certification training standard is comprised of eight sections.

#### Section Heading

Training standards are grouped by section headings that describe a general category. For example, the Fire Fighter 1 CTS guide includes the following section headings: NFPA Requirements, Fire Department Communications, Fireground Operations, and Preparedness and Maintenance.

#### Training Standard Title

The training standard title provides a general description of the performance requirement contained within the individual standard.

#### Authority

The CTS guide references each individual standard with one or more paragraphs of the corresponding National Fire Protection Association (NFPA) Professional Qualifications. This ensures that each fire service function within California's certification system meets or exceeds NFPA standards.

When California requirements exceed the NFPA standard, the CTS guide cites the Office of the State Fire Marshal as the authority and prints the corresponding information in *italics*.

#### Job Performance Requirements

This segment includes a written statement that describes a specific job-related task, the items an individual needs to complete the task, and measurable or observable outcomes.

### **Requisite Knowledge**

This segment lists the knowledge that an individual must acquire to accomplish the job performance requirement.

### **Requisite Skills**

This segment lists the skills that an individual must acquire to accomplish the job performance requirement.

### **Content Modification**

This table documents and justifies any revisions to the NFPA standard that the development or validation cadres make during the development of a CTS guide.

### **Cross Reference**

This table documents where each training standard is taught (course plan), tested (skill sheets), and validated (task book).

# Fire Apparatus

## Section 1: Preventative Maintenance

### 1-1: Perform Visual and Operational Checks

#### Authority

1. NFPA 1010: Standard on Professional Qualifications for Firefighters (2024)
  - Paragraph 11.2.1

#### Job Performance Requirement

Perform visual and operational checks on the systems and components specified in the following list (battery(ies), braking system, coolant system, electrical system, fuel, hydraulic fluids, oil, tires, steering system, belts, tools, appliances, equipment, built-in safety features), given a fire apparatus, its manufacturer's specifications, tools and equipment, and policies and procedures of the jurisdiction, so that the operational status of the vehicle is verified.

#### Requisite Knowledge

1. Identify manufacturer specifications and requirements
2. Identify policies and procedures of the jurisdiction

#### Requisite Skills

1. Use tools and equipment
2. Recognize system problems and out-of-service criteria
3. Correct any deficiency noted according to policies and procedures and/or manufacturer specifications and requirements

#### Content Modification

| Block | Modification                                                 | Justification                                                       |
|-------|--------------------------------------------------------------|---------------------------------------------------------------------|
| JPR   | Changed "department vehicle" to "apparatus".                 | Changed for linguistic consistency across vehicle standards. (2014) |
| JPR   | Added "tools and equipment".                                 | Required to perform operational checks. (2014)                      |
| RS1   | Added "and equipment".                                       | Required to perform operational checks. (2014)                      |
| RS2   | Added "and out-of-service criteria".                         | None given. (2014)                                                  |
| RS3   | Added "and/or manufacturer specifications and requirements". | None given. (2014)                                                  |

### Cross Reference

| Course Plan                                                                                                | Skill Sheets | Task Book                                                                                        |
|------------------------------------------------------------------------------------------------------------|--------------|--------------------------------------------------------------------------------------------------|
| FADO 1A: Fire Apparatus Driver/Operator (2024) <ul style="list-style-type: none"><li>• Topic 2-1</li></ul> | N/A          | Pumping Apparatus Driver/Operator (2024) <ul style="list-style-type: none"><li>• JPR 1</li></ul> |

## 1-2: Document Visual and Operational Checks

### Authority

1. NFPA 1010: Standard on Professional Qualifications for Firefighters (2024)
  - Paragraph 11.2.2

### Job Performance Requirement

Document the visual and operational checks, given maintenance and inspection forms, so that all items are checked for operation and deficiencies are reported.

### Requisite Knowledge

1. Identify AHJ requirements for documenting maintenance performed
2. Describe the importance of keeping accurate records

### Requisite Skills

1. Use tools and equipment
2. Complete all related AHJ forms

### Content Modification

| Block | Modification                     | Justification                              |
|-------|----------------------------------|--------------------------------------------|
| RK1   | Changed “departmental” to “AHJ”. | Changed for linguistic consistency. (2014) |
| RS2   | Changed “departmental” to “AHJ”. | Changed for linguistic consistency. (2014) |

### Cross Reference

| Course Plan                                                                                                | Skill Sheets | Task Book                                                                                        |
|------------------------------------------------------------------------------------------------------------|--------------|--------------------------------------------------------------------------------------------------|
| FADO 1A: Fire Apparatus Driver/Operator (2024) <ul style="list-style-type: none"><li>• Topic 2-2</li></ul> | N/A          | Pumping Apparatus Driver/Operator (2024) <ul style="list-style-type: none"><li>• JPR 2</li></ul> |

## Section 2: Driving

### 2-1: Operate a Fire Apparatus

#### Authority

1. NFPA 1010: Standard on Professional Qualifications for Firefighters (2024)
  - Paragraph 11.3.1

#### Job Performance Requirement

Operate a fire apparatus, given an apparatus and a predetermined route on a public way that incorporates the maneuvers and features that the driver/operator is expected to encounter during normal operations, so that the apparatus is operated in compliance with all applicable state and local laws and AHJ rules and regulations.

#### Requisite Knowledge

1. Describe the importance of donning passenger restraint devices and ensuring crew safety
2. Identify common causes of fire apparatus accidents
3. Recognize that fire apparatus driver/operators are responsible for the safe and prudent operation of the apparatus under all conditions
4. Describe the effects of liquid surge, braking reaction time, and load factors on apparatus control
5. Describe the effects of high center of gravity on rollover potential, general steering reactions, speed, and centrifugal force
6. Identify applicable laws and regulations
7. Describe principles of skid avoidance, night driving, shifting, and gear patterns
8. Describe how to negotiate intersections, railroad crossings, and bridges
9. Identify weight and height limitations for both roads and bridges
10. Describe how to identify and operate automotive gauges
11. Identify operational limits of different types of fire apparatus

#### Requisite Skills

1. Operate passenger restraint devices
2. Maintain safe following distances
3. Maintain control of the apparatus while accelerating, decelerating, and turning, given road, weather, and traffic conditions
4. Operate under adverse environmental or driving surface conditions
5. Use automotive gauges and controls

### Content Modification

| Block | Modification                                  | Justification                                       |
|-------|-----------------------------------------------|-----------------------------------------------------|
| JPR   | Changed “vehicle” to “apparatus”.             | Changed for consistency. (2014)                     |
| JPR   | Changed “departmental” to “AHJ”.              | Changed for consistency. (2014)                     |
| RK3   | Changed word order.                           | Word order changed for grammar consistency. (2014)  |
| RK3   | Added “/operators”.                           | Added to match certification role. (2014)           |
| RK3   | Changed “vehicle” to “apparatus”.             | Changed for consistency. (2014)                     |
| RK4   | Changed word order.                           | Word order changed for grammar consistency. (2014)  |
| RK4   | Changed “vehicle” to “apparatus”.             | Changed for consistency. (2014)                     |
| RK12  | Added “of different types of fire apparatus”. | Added to narrow scope of learning objective. (2014) |
| RS3   | Changed “vehicle” to “apparatus”.             | Changed for consistency. (2014)                     |

### Cross Reference

| Course Plan                                                                                                | Skill Sheets | Task Book                                                                                        |
|------------------------------------------------------------------------------------------------------------|--------------|--------------------------------------------------------------------------------------------------|
| FADO 1A: Fire Apparatus Driver/Operator (2024) <ul style="list-style-type: none"><li>• Topic 3-1</li></ul> | N/A          | Pumping Apparatus Driver/Operator (2024) <ul style="list-style-type: none"><li>• JPR 3</li></ul> |

## 2-2: Back a Fire Apparatus from a Roadway into a Restricted Space

### Authority

1. NFPA 1010: Standard on Professional Qualifications for Firefighters (2024)
  - Paragraph 11.3.2

### Job Performance Requirement

Back a fire apparatus from a roadway into an area with restricted spaces on both the right and left sides of the apparatus, given a fire apparatus, a spotter to assist the driver in performing the maneuver, and restricted spaces of 12 ft (3.7 m) in width, requiring 90-degree right-hand and left-hand turns from the roadway, so that the apparatus is parked within the restricted areas without needing to stop and pull forward and without striking obstructions.

### Requisite Knowledge

1. Identify fire apparatus dimensions
2. Describe turning characteristics
3. Describe spotter signaling
4. Describe principles of safe fire apparatus operation

### Requisite Skills

1. Use mirrors
2. Judge fire apparatus clearance

### Content Modification

| Block | Modification                                           | Justification                   |
|-------|--------------------------------------------------------|---------------------------------|
| JPR   | Changed “vehicle” to “fire apparatus” and “apparatus”. | Changed for consistency. (2014) |
| RK1   | Changed “vehicle” to “fire apparatus”.                 | Changed for consistency. (2014) |
| RK4   | Changed “vehicle” to “fire apparatus”.                 | Changed for consistency. (2014) |
| RS2   | Changed “vehicle” to “fire apparatus”.                 | Changed for consistency. (2014) |

### Cross Reference

| Course Plan                                                                                                | Skill Sheets | Task Book                                                                                        |
|------------------------------------------------------------------------------------------------------------|--------------|--------------------------------------------------------------------------------------------------|
| FADO 1A: Fire Apparatus Driver/Operator (2024) <ul style="list-style-type: none"><li>• Topic 3-3</li></ul> | N/A          | Pumping Apparatus Driver/Operator (2024) <ul style="list-style-type: none"><li>• JPR 4</li></ul> |

## 2-3: Maneuver a Fire Apparatus around Obstructions

### Authority

1. NFPA 1010: Standard on Professional Qualifications for Firefighters (2024)
  - Paragraph 11.3.3

### Job Performance Requirement

Maneuver a fire apparatus around obstructions on a roadway while moving forward and in reverse, given a fire apparatus, a spotter where the spotter assists the driver in performing the maneuver, and a roadway with obstructions, so that the vehicle is maneuvered through the obstructions without stopping to change the direction of travel and without striking the obstructions.

### Requisite Knowledge

1. Identify fire apparatus dimensions
2. Describe turning characteristics
3. Describe the effects of liquid surge
4. Describe spotter signaling
5. Describe principles of safe fire apparatus operation

### Requisite Skills

1. Use mirrors
2. Judge fire apparatus clearance

### Content Modification

| Block | Modification                           | Justification                   |
|-------|----------------------------------------|---------------------------------|
| JPR   | Changed "vehicle" to "fire apparatus". | Changed for consistency. (2014) |
| RK1   | Changed "vehicle" to "fire apparatus". | Changed for consistency. (2014) |
| RK5   | Changed "vehicle" to "fire apparatus". | Changed for consistency. (2014) |
| RS2   | Changed "vehicle" to "fire apparatus". | Changed for consistency. (2014) |

### Cross Reference

| Course Plan                                                                                                | Skill Sheets | Task Book                                                                                        |
|------------------------------------------------------------------------------------------------------------|--------------|--------------------------------------------------------------------------------------------------|
| FADO 1A: Fire Apparatus Driver/Operator (2024) <ul style="list-style-type: none"><li>• Topic 3-4</li></ul> | N/A          | Pumping Apparatus Driver/Operator (2024) <ul style="list-style-type: none"><li>• JPR 5</li></ul> |

## 2-4: Turn a Fire Apparatus 180 Degrees within a Confined Space

### Authority

1. NFPA 1010: Standard on Professional Qualifications for Firefighters (2024)
  - Paragraph 11.3.4

### Job Performance Requirement

Turn a fire apparatus 180 degrees within a confined space, given a fire apparatus, a spotter for backing up, and an area in which the apparatus cannot perform a U-turn without stopping and backing up, so that the apparatus is turned 180 degrees without striking obstructions within the given space.

### Requisite Knowledge

1. Identify fire apparatus dimensions
2. Describe turning characteristics
3. Describe the effects of liquid surge
4. Describe spotter signaling
5. Describe principles of safe fire apparatus operation

### Requisite Skills

1. Use mirrors
2. Judge fire apparatus clearance

### Content Modification

| Block | Modification                      | Justification                   |
|-------|-----------------------------------|---------------------------------|
| JPR   | Changed “vehicle” to “apparatus”. | Changed for consistency. (2014) |
| RK1   | Changed “vehicle” to “apparatus”. | Changed for consistency. (2014) |
| RK5   | Changed “vehicle” to “apparatus”. | Changed for consistency. (2014) |
| RS2   | Changed “vehicle” to “apparatus”. | Changed for consistency. (2014) |

### Cross Reference

| Course Plan                                                                                                                                                          | Skill Sheets | Task Book                                                                                        |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|--------------------------------------------------------------------------------------------------|
| FADO 1A: Fire Apparatus Driver/Operator (2024) <ul style="list-style-type: none"><li>• Topic 3-4 (RK 3)</li><li>• Topic 3-5 (RK1, RK2, RK4, RK5, RS1, RS2)</li></ul> | N/A          | Pumping Apparatus Driver/Operator (2024) <ul style="list-style-type: none"><li>• JPR 6</li></ul> |

## 2-5: Maneuver a Fire Apparatus in Areas with Restricted Clearances

### Authority

1. NFPA 1010: Standard on Professional Qualifications for Firefighters (2024)
  - Paragraph 11.3.5

### Job Performance Requirement

Maneuver a fire apparatus in areas with restricted horizontal and vertical clearances, given a fire apparatus and a course that requires the operator to move through areas of restricted horizontal and vertical clearances, so that the operator judges the ability of the apparatus to pass through the openings, using continual motion, and so that no obstructions are struck.

### Requisite Knowledge

1. Identify fire apparatus dimensions
2. Describe turning characteristics
3. Describe the effects of liquid surge
4. Describe principles of safe fire apparatus operation

### Requisite Skills

1. Use mirrors
2. Judge fire apparatus clearance

### Content Modification

| Block | Modification                      | Justification                                                                                                                                                                                      |
|-------|-----------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| JPR   | Changed “vehicle” to “apparatus”. | Changed for consistency. (2014)                                                                                                                                                                    |
| JPR   | Added “using continual motion”.   | Cadre asserts that this is the original intent of the skill. This needs to be accomplished without starting and stopping. Addition makes it consistent with all other JPRs in this chapter. (2021) |
| RK1   | Changed “vehicle” to “apparatus.” | Changed for consistency. (2014)                                                                                                                                                                    |
| RK5   | Changed “vehicle” to “apparatus.” | Changed for consistency. (2014)                                                                                                                                                                    |
| RS2   | Changed “vehicle” to “apparatus.” | Changed for consistency. (2014)                                                                                                                                                                    |

### Cross Reference

| Course Plan                                                                                                                                                         | Skill Sheets | Task Book                                                                                        |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|--------------------------------------------------------------------------------------------------|
| FADO 1A: Fire Apparatus Driver/Operator (2024) <ul style="list-style-type: none"><li>• Topic 3-4 (RK3)</li><li>• Topic 3-6 (RK1, RK2, RK4, RK5, RS1, RS2)</li></ul> | N/A          | Pumping Apparatus Driver/Operator (2024) <ul style="list-style-type: none"><li>• JPR 7</li></ul> |

## 2-6: Operate a Fire Apparatus Using Defensive Driving Techniques

### Authority

1. NFPA 1010: Standard on Professional Qualifications for Firefighters (2024)
  - Paragraph 11.3.6

### Job Performance Requirement

Operate a fire apparatus using defensive driving techniques, given an assignment and a fire apparatus, so that control of the vehicle is maintained.

### Requisite Knowledge

1. Describe the importance of donning passenger restraint devices and ensuring crew safety
2. Describe common causes of fire apparatus accidents
3. Recognize that fire apparatus driver/operators are responsible for the safe and prudent operation of the apparatus under all conditions
4. Describe the effects of liquid surge on vehicle control
5. Describe factors that make up total stopping distance
6. Describe load factors
7. Describe the effects of a high center of gravity on rollover potential, laws of inertia, general steering reactions, and speed
8. Describe applicable laws and regulations
9. Describe principles of skid avoidance, night driving, shifting, gear patterns, and automatic braking systems in wet and dry conditions
10. Describe how to negotiate intersections, railroad crossings, and bridges
11. Describe weight and height limitations for both roads and bridges
12. Describe how to identify and operate automotive gauges
13. Describe operational limits

### Requisite Skills

1. Operate passenger restraint devices
2. Maintain safe following distances
3. Maintain control of the apparatus while accelerating, decelerating, and turning, given road, weather, and traffic conditions
4. Operate under adverse environmental or driving surface conditions
5. Use automotive gauges and controls

### Content Modification

| Block | Modification                      | Justification                                      |
|-------|-----------------------------------|----------------------------------------------------|
| JPR   | Changed “vehicle” to “apparatus”. | Changed for consistency. (2014)                    |
| RK3   | Changed word order.               | Word order changed for grammar consistency. (2014) |
| RK3   | Added “/operators”.               | Added to match certification role. (2014)          |

Fire Apparatus  
Section 2: Driving

|     |                                   |                                 |
|-----|-----------------------------------|---------------------------------|
| RK3 | Changed “vehicle” to “apparatus”. | Changed for consistency. (2014) |
| RS3 | Changed “vehicle” to “apparatus”. | Changed for consistency. (2024) |

**Cross Reference**

| Course Plan                                                                                                | Skill Sheets | Task Book                                                                                        |
|------------------------------------------------------------------------------------------------------------|--------------|--------------------------------------------------------------------------------------------------|
| FADO 1A: Fire Apparatus Driver/Operator (2024) <ul style="list-style-type: none"><li>• Topic 3-1</li></ul> | N/A          | Pumping Apparatus Driver/Operator (2024) <ul style="list-style-type: none"><li>• JPR 8</li></ul> |

## 2-7: Operate All Fixed Systems and Equipment on a Fire Apparatus

### Authority

1. NFPA 1010: Standard on Professional Qualifications for Firefighters (2024)
  - Paragraph 11.3.7

### Job Performance Requirement

Operate all fixed systems and equipment on the fire apparatus not addressed elsewhere in Chapters 11 through 17 of NFPA 1010 (2024), given fixed systems and equipment, manufacturer's specifications and requirements, and AHJ policies and procedures for the systems and equipment, so that each system or piece of equipment is operated in accordance with the applicable instructions and policies.

### Requisite Knowledge

1. Describe manufacturer's specifications and operating procedures
2. Identify policies and procedures of the jurisdiction

### Requisite Skills

1. Deploy, energize, and monitor the system or equipment
2. Recognize and correct system problems

### Content Modification

| Block | Modification                                 | Justification                    |
|-------|----------------------------------------------|----------------------------------|
| JPR   | Replaced "vehicle" with "fire apparatus".    | Replaced for consistency. (2014) |
| JPR   | Added "of NFPA 1010 (2024)".                 | Added for context. (2024)        |
| JPR   | Added "fixed".                               | None given. (2014)               |
| JPR   | Replaced "instructions" with "requirements". | None given. (2014)               |
| JPR   | Replaced "departmental" with "AHJ".          | Replaced for consistency. (2014) |

### Cross Reference

| Course Plan                                                                                                | Skill Sheets | Task Book                                                                                        |
|------------------------------------------------------------------------------------------------------------|--------------|--------------------------------------------------------------------------------------------------|
| FADO 1A: Fire Apparatus Driver/Operator (2024) <ul style="list-style-type: none"><li>• Topic 3-7</li></ul> | N/A          | Pumping Apparatus Driver/Operator (2024) <ul style="list-style-type: none"><li>• JPR 9</li></ul> |

## Pumping Apparatus

### Section 3: General

#### 3-1: Pumper Driver/Operator Roles and Responsibilities

##### Authority

1. NFPA 1010: Standard on Professional Qualifications for Firefighters (2024)
  - Paragraph 12.1.1

##### Job Performance Requirement

There is no job performance requirement for this standard.

##### Requisite Knowledge

1. Describe the organization of the fire department
2. Describe the role of the driver/operator in the organization
3. Describe the mission of the fire service
4. Describe the fire department's standard operating procedures (SOPs) and rules and regulations as they apply to the driver/operator
5. Describe the value of fire and life safety initiatives in support of the fire department mission and to reduce firefighter line-of-duty injuries and fatalities
6. Describe the role of other agencies as they relate to the fire department
7. Describe aspects of the fire department's member assistance program
8. Describe the importance of physical fitness and a healthy lifestyle to the performance of the duties of a firefighter
9. Identify critical aspects of NFPA 1500

##### Requisite Skills

1. None

##### Content Modification

| Block | Modification | Justification |
|-------|--------------|---------------|
|       |              |               |

##### Cross Reference

| Course Plan                                                                                              | Skill Sheets | Task Book |
|----------------------------------------------------------------------------------------------------------|--------------|-----------|
| FADO 1B: Pumping Apparatus Operations (2024) <ul style="list-style-type: none"><li>• Topic 2-1</li></ul> | N/A          | N/A       |

## Section 4: Communications

### 4-1: Initiate the Response to a Reported Emergency

#### Authority

1. NFPA 1010: Standard on Professional Qualifications for Firefighters (2024)
  - Paragraph 12.2.1

#### Job Performance Requirement

Initiate the response to a reported emergency, given the report of an emergency, fire department standard operating procedures (SOPs), and communications equipment and technology, so that all necessary information is obtained, communications equipment and technology are operated correctly, and the information is relayed promptly and accurately to the dispatch center.

#### Requisite Knowledge

1. Describe procedures for reporting an emergency
2. Identify departmental SOPs for taking and receiving alarms
3. Identify information needs of the dispatch center

#### Requisite Skills

1. Operate fire department communications equipment and technology
2. Relay information
3. Record information

#### Content Modification

| Block | Modification | Justification |
|-------|--------------|---------------|
|       |              |               |

#### Cross Reference

| Course Plan                                                                                      | Skill Sheets | Task Book |
|--------------------------------------------------------------------------------------------------|--------------|-----------|
| Testing and validation for this standard is fulfilled through OSFM Fire Fighter 1 certification. | N/A          | N/A       |

## 4-2: Transmit and Receive Communications

### Authority

1. NFPA 1010: Standard on Professional Qualifications for Firefighters (2024)
  - Paragraph 12.2.2

### Job Performance Requirement

Transmit and receive communications using fire department equipment and technology, given equipment and technology and operating procedures, so that the information is accurate, complete, clear, and relayed within the timeframe established by the AHJ.

### Requisite Knowledge

1. Describe departmental communication procedures and etiquette for routine traffic, emergency traffic, and emergency evaluation signals

### Requisite Skills

1. Operate communications equipment and technology
2. Discriminate between routine and emergency traffic

### Content Modification

| Block | Modification | Justification |
|-------|--------------|---------------|
|       |              |               |

### Cross Reference

| Course Plan                                                                                      | Skill Sheets | Task Book |
|--------------------------------------------------------------------------------------------------|--------------|-----------|
| Testing and validation for this standard is fulfilled through OSFM Fire Fighter 1 certification. | N/A          | N/A       |

## Section 5: Preventative Maintenance

### 5-1: Perform and Document Visual and Operational Checks

#### Authority

1. NFPA 1010: Standard on Professional Qualifications for Firefighters (2024)
  - Paragraph 12.3.1

#### Job Performance Requirement

Perform and document visual and operational checks on the systems and components specified in the following list (water tank and other extinguishing agent levels (if applicable), pumping systems, foam systems) in addition to those in 11.2.1 of NFPA 1010 (2024), given a pumping apparatus, its manufacturer's specifications, and policies and procedures of the AHJ, so that the operational status of the pumping apparatus is verified.

#### Requisite Knowledge

1. Identify manufacturer's specifications and requirements
2. Identify policies and procedures of the AHJ

#### Requisite Skills

1. Use hand tools and equipment
2. Recognize system problems and out-of-service criteria
3. Correct any deficiency noted according to policies and procedures and/or manufacturer specification and requirements

#### Content Modification

| Block | Modification                                                 | Justification                                 |
|-------|--------------------------------------------------------------|-----------------------------------------------|
| JPR   | Added "and document".                                        | None given. (2014)                            |
| JPR   | Added "of NFPA 1010 (2024)".                                 | Added for context. (2024)                     |
| JPR   | Changed "pumper" to "pumping apparatus" in two places.       | Changed for OSFM language consistency (2014). |
| RS1   | Added "and equipment".                                       | None given. (2014)                            |
| RS2   | Added "and out-of-service criteria".                         | None given. (2014)                            |
| RS3   | Added "and/or manufacturer specifications and requirements". | None given. (2014)                            |

#### Cross Reference

| Course Plan                                                                                              | Skill Sheets | Task Book                                                                                         |
|----------------------------------------------------------------------------------------------------------|--------------|---------------------------------------------------------------------------------------------------|
| FADO 1B: Pumping Apparatus Operations (2024) <ul style="list-style-type: none"><li>• Topic 3-1</li></ul> | N/A          | Pumping Apparatus Driver/Operator (2024) <ul style="list-style-type: none"><li>• JPR 10</li></ul> |

## Section 6: Operations

### 6-1: Respond on an Apparatus to an Emergency Scene

#### Authority

1. NFPA 1010: Standard on Professional Qualifications for Firefighters (2024)
  - Paragraph 12.4.1

#### Job Performance Requirement

Respond on an apparatus to an emergency scene, given safety equipment as provided by the AHJ, so that the apparatus is correctly mounted and dismounted and seat belts are used while the vehicle is in motion.

#### Requisite Knowledge

1. Describe mounting and dismounting procedures for riding a fire apparatus
2. Identify hazards and ways to avoid hazards associated with riding a fire apparatus
3. Identify prohibited practices
4. Describe types of department safety equipment the means for usage

#### Requisite Skills

1. Use each piece of provided safety equipment

#### Content Modification

| Block | Modification    | Justification                                        |
|-------|-----------------|------------------------------------------------------|
| RK1   | Added "a".      | Added to improve grammar. (2017)                     |
| RK2   | Added "a fire". | Added to improve grammar and for consistency. (2017) |

#### Cross Reference

| Course Plan                                                                                              | Skill Sheets | Task Book                                                                                         |
|----------------------------------------------------------------------------------------------------------|--------------|---------------------------------------------------------------------------------------------------|
| FADO 1B: Pumping Apparatus Operations (2024) <ul style="list-style-type: none"><li>• Topic 4-1</li></ul> | N/A          | Pumping Apparatus Driver/Operator (2024) <ul style="list-style-type: none"><li>• JPR 11</li></ul> |

## 6-2: Establish and Operate at Emergency and Nonemergency Scenes

### Authority

1. NFPA 1010: Standard on Professional Qualifications for Firefighters (2024)
  - Paragraph 12.4.2

### Job Performance Requirement

Establish and operate in work areas at emergency and nonemergency scenes, given safety equipment, traffic and scene control devices, emergency and nonemergency scenes, traffic and other hazards, an assignment, and SOPs, so that procedures are followed, safety equipment is utilized, protected work areas are established as directed using traffic and scene control devices, and the driver/operator performs assigned tasks only in established, protected work areas.

### Requisite Knowledge

1. Identify potential hazards involved in operation on emergency and nonemergency scenes including vehicle traffic, utilities, and environmental conditions
2. Describe proper procedures for dismounting apparatus in traffic
3. Describe procedures for safe operation at emergency and nonemergency scenes
4. Identify safety equipment available for members on emergency and nonemergency scenes

### Requisite Skills

1. Use safety equipment
2. Deploy traffic and scene control devices
3. Dismount apparatus
4. Establish and operate in the protected work areas as directed

### Content Modification

| Block | Modification | Justification |
|-------|--------------|---------------|
|       |              |               |

### Cross Reference

| Course Plan                                                                                              | Skill Sheets | Task Book                                                                                         |
|----------------------------------------------------------------------------------------------------------|--------------|---------------------------------------------------------------------------------------------------|
| FADO 1B: Pumping Apparatus Operations (2024) <ul style="list-style-type: none"><li>• Topic 4-2</li></ul> | N/A          | Pumping Apparatus Driver/Operator (2024) <ul style="list-style-type: none"><li>• JPR 12</li></ul> |

### 6-3: Connect to a Water Supply

#### Authority

1. NFPA 1010: Standard on Professional Qualifications for Firefighters (2024)
  - Paragraph 12.4.3

#### Job Performance Requirement

Connect a **pumping apparatus** to a water supply as a member of a team, given supply or intake hose, hose tools, and a fire hydrant or static water source, so that connections are tight and water flow is unobstructed.

#### Requisite Knowledge

1. Describe loading and off-loading procedures for **pumping apparatus**
2. Describe fire hydrant operation
3. Identify suitable static water supply sources
4. Describe procedures and protocol for connecting to various water sources

#### Requisite Skills

1. Hand lay a supply hose
2. Connect and place hard suction hose for drafting operations
3. Deploy portable water tanks as well as the equipment necessary to transfer water between and draft from them
4. Make hydrant-to-**apparatus** hose connections for forward and reverse lays
5. Connect supply hose to a hydrant
6. Fully open and close the hydrant

#### Content Modification

| Block | Modification                                | Justification                   |
|-------|---------------------------------------------|---------------------------------|
| JPR   | Changed “pumper” to “pumping apparatus”.    | Changed for consistency. (2024) |
| RK1   | Changed “mobile water supply” to “pumping”. | Changed for accuracy. (2024)    |
| RS4   | Changed “pumper” to “apparatus”.            | Changed for consistency. (2017) |

#### Cross Reference

| Course Plan                                                                                              | Skill Sheets | Task Book                                                                                         |
|----------------------------------------------------------------------------------------------------------|--------------|---------------------------------------------------------------------------------------------------|
| FADO 1B: Pumping Apparatus Operations (2024) <ul style="list-style-type: none"><li>• Topic 4-3</li></ul> | N/A          | Pumping Apparatus Driver/Operator (2024) <ul style="list-style-type: none"><li>• JPR 13</li></ul> |

## 6-4: Produce Effective Hand Lines and Master Streams

### Authority

1. NFPA 1010: Standard on Professional Qualifications for Firefighters (2024)
  - Paragraph 12.4.4

### Job Performance Requirement

Produce effective hand lines and master streams, given the sources specified in the following list (internal tank, pressurized source, static source, transfer from internal tank to external source), so that the pump is engaged, all pressure control and apparatus safety devices are set, the rated flow of the nozzle is achieved and maintained, and the apparatus is monitored for potential problems.

### Requisite Knowledge

1. Describe hydraulic calculations for friction loss and flow using both written formulas and estimation methods
2. Describe safe operation of the pump
3. Identify problems related to small-diameter or dead-end mains
4. Describe low-pressure and private water supply systems
5. Describe hydrant coding systems
6. Describe the reliability of static sources

### Requisite Skills

1. Position a pumping apparatus to operate at a fire hydrant
2. Position a pumping apparatus to operate at a static water source
3. Transfer power from apparatus engine to pump
4. Draft
5. Operate apparatus pressure control systems
6. Operate the volume/pressure transfer valve (multistate pumps only)
7. Operate auxiliary cooling systems
8. Make the transition between internal and external water sources
9. Assemble hose lines, nozzles, valves, and appliances

### Content Modification

| Block | Modification                                             | Justification                                                         |
|-------|----------------------------------------------------------|-----------------------------------------------------------------------|
| JPR   | Added "lines".                                           | Changed to correct terminology. (2017)                                |
| JPR   | Changed "or" to "and".                                   | Candidates must be able to do both, not just one or the other. (2017) |
| JPR   | Changed "vehicle" to "apparatus".                        | Changed for consistency. (2014)                                       |
| RS1   | Changed "fire department pumper" to "pumping apparatus". | Changed for consistency. (2014)                                       |

Pumping Apparatus  
Section 6: Operations

|     |                                                          |                                 |
|-----|----------------------------------------------------------|---------------------------------|
| RS2 | Changed “fire department pumper” to “pumping apparatus”. | Changed for consistency. (2014) |
| RS3 | Changed “vehicle” to “apparatus”.                        | Changed for consistency. (2017) |
| RS5 | Changed “pumper” to “apparatus”.                         | Changed for consistency. (2017) |

### Cross Reference

| Course Plan                                                                                              | Skill Sheets | Task Book                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|----------------------------------------------------------------------------------------------------------|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| FADO 1B: Pumping Apparatus Operations (2024) <ul style="list-style-type: none"><li>• Topic 4-4</li></ul> | N/A          | Pumping Apparatus Driver/Operator (2024) <ul style="list-style-type: none"><li>• JPR 14 (hand line / internal tank)</li><li>• JPR 15 (master stream / internal tank)</li><li>• JPR 16 (hand line / pressurized source)</li><li>• JPR 17 (master stream / pressurized source)</li><li>• JPR 18 (hand line / static source)</li><li>• JPR 19 (master stream / static source)</li><li>• JPR 20 (hand line / internal to external transfer)</li><li>• JPR 21 (master stream / internal to external transfer)</li></ul> |

## 6-5: Pump a Supply Line

### Authority

1. NFPA 1010: Standard on Professional Qualifications for Firefighters (2024)
  - Paragraph 12.4.5

### Job Performance Requirement

Pump a supply line of 2½ in. (65 mm) or larger, given a relay pumping evolution the length and size of the line and the desired flow and intake pressure, so that the correct pressure and flow are provided to the next **pumping apparatus** in the relay.

### Requisite Knowledge

1. **Describe** hydraulic calculations for friction loss and flow using both written formulas and estimation methods
2. **Describe** safe operation of the pump
3. **Identify** problems related to small-diameter or dead-end mains
4. **Describe** low-pressure and private water supply systems
5. **Describe** hydrant coding systems
6. **Describe** reliability of static sources

### Requisite Skills

1. Position a **pumping apparatus** to operate at a fire hydrant
2. Position a **pumping apparatus** to operate a static water source
3. Transfer power from **pumping apparatus** engine to pump
4. Draft
5. Operate **apparatus** pressure control systems
6. Operate the volume/pressure transfer valve (multistate pumps only)
7. Operate auxiliary cooling systems
8. Make the transition between internal and external water sources
9. Assemble hose lines, nozzles, valves, and appliances

### Content Modification

| Block | Modification                              | Justification                   |
|-------|-------------------------------------------|---------------------------------|
| JPR   | Changed “vehicle” to “pumping apparatus”. | Changed for consistency. (2014) |
| RS1   | Changed “pumper” to “pumping apparatus”.  | Changed for consistency. (2024) |
| RS2   | Changed “pumper” to “pumping apparatus”.  | Changed for consistency. (2024) |
| RS3   | Changed “vehicle” to “pumping apparatus”. | Changed for consistency. (2024) |
| RS5   | Changed “pumper” to “apparatus”.          | Changed for consistency. (2017) |

### Cross Reference

| Course Plan                                                                                                                                                                                               | Skill Sheets | Task Book                                                                                         |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|---------------------------------------------------------------------------------------------------|
| FADO 1B: Pumping Apparatus Operations (2024) <ul style="list-style-type: none"><li>• Topic 4-4 (RK2, RK3, RK4, RK5, RK6)</li><li>• Topic 4-5 (RK1, RS1, RS2, RS3, RS4, RS5, RS6, RS7, RS8, RS9)</li></ul> | N/A          | Pumping Apparatus Driver/Operator (2024) <ul style="list-style-type: none"><li>• JPR 22</li></ul> |

## 6-6: Produce a Foam Fire Stream

### Authority

1. NFPA 1010: Standard on Professional Qualifications for Firefighters (2024)
  - Paragraph 12.4.6

### Job Performance Requirement

Produce a foam fire stream, given foam-producing equipment and manufacturer's specifications and requirements, so that proportioned foam is provided.

### Requisite Knowledge

1. Describe proportioning rates and concentrations
2. Describe equipment assembly procedures
3. Identify foam system limitations
4. Identify manufacturer's specifications and requirements

### Requisite Skills

1. Operate foam proportioning equipment
2. Connect foam stream equipment

### Content Modification

| Block | Modification                                                | Justification                                                         |
|-------|-------------------------------------------------------------|-----------------------------------------------------------------------|
| JPR   | Added "and manufacturer's specifications and requirements". | Used in Requisite Knowledge but not included in the JPR given. (2014) |
| RK4   | Added "and requirements".                                   | None given. (2014)                                                    |

### Cross Reference

| Course Plan                                                                                              | Skill Sheets | Task Book                                                                                         |
|----------------------------------------------------------------------------------------------------------|--------------|---------------------------------------------------------------------------------------------------|
| FADO 1B: Pumping Apparatus Operations (2024) <ul style="list-style-type: none"><li>• Topic 4-6</li></ul> | N/A          | Pumping Apparatus Driver/Operator (2024) <ul style="list-style-type: none"><li>• JPR 23</li></ul> |

## 6-7: Supply Water to Fire Sprinkler and Standpipe Systems

### Authority

1. NFPA 1010: Standard on Professional Qualifications for Firefighters (2024)
  - Paragraph 12.4.7

### Job Performance Requirement

Supply water to fire sprinkler and standpipe systems, given specific system information, a pumping apparatus, and sprinkler and standpipe systems, so that the water is supplied at the correct volume and pressure.

### Requisite Knowledge

1. Describe how to calculate pump discharge pressure
2. Describe hose layouts
3. Identify location of fire department connections
4. Describe alternative supply procedures if fire department connection is not usable
5. Describe operating principles of sprinkler systems as defined in NFPA 13, NFPA 13D, and NFPA 13R
6. Describe fire department operations in sprinklered properties as defined in NFPA 13E
7. Describe operating principles of standpipe systems as defined in NFPA 14

### Requisite Skills

1. Position a pumping apparatus to operate at a fire hydrant
2. Position a pumping apparatus to operate at a static water source
3. Transfer power from pumping apparatus engine to pump
4. Draft
5. Operate apparatus pressure control systems
6. Operate the volume/pressure transfer valve (multistage pumps only)
7. Operate auxiliary cooling systems
8. Make transition between internal and external water sources
9. Assemble hose lines, nozzles, valves, and appliances

### Content Modification

| Block | Modification                              | Justification                   |
|-------|-------------------------------------------|---------------------------------|
| JPR   | Changed “pumper” to “pumping apparatus”.  | Changed for consistency. (2024) |
| JPR   | Added “sprinkler and standpipe systems”.  | None given. (2014)              |
| RS1   | Changed “pumper” to “pumping apparatus”.  | Changed for consistency. (2024) |
| RS2   | Changed “pumper” to “pumping apparatus”.  | Changed for consistency. (2024) |
| RS3   | Changed “vehicle” to “pumping apparatus”. | Changed for consistency. (2024) |
| RS5   | Changed “pumper” to “apparatus”.          | Changed for consistency. (2017) |

### Cross Reference

| Course Plan                                                                                              | Skill Sheets | Task Book                                                                                         |
|----------------------------------------------------------------------------------------------------------|--------------|---------------------------------------------------------------------------------------------------|
| FADO 1B: Pumping Apparatus Operations (2024) <ul style="list-style-type: none"><li>• Topic 4-7</li></ul> | N/A          | Pumping Apparatus Driver/Operator (2024) <ul style="list-style-type: none"><li>• JPR 24</li></ul> |

## Aerial Apparatus

### Section 7: Preventative Maintenance

#### 7-1: Perform and Document Visual and Operational Checks

##### Authority

1. NFPA 1010: Standard on Professional Qualifications for Firefighters (2024)
  - Paragraph 13.2.1

##### Job Performance Requirement

Perform and document the visual and operation checks on the systems and components specified in the following list (cable systems (if applicable), aerial device hydraulic systems, slides and rollers, stabilizing systems, aerial device safety systems, breathing air systems, communication systems) in addition to those specified in 11.2.1 of NFPA 1010 (2024), given an aerial apparatus, and policies and procedures of the jurisdiction, so that the operational readiness of the aerial apparatus is verified.

##### Requisite Knowledge

1. Identify manufacturer specifications and requirements
2. Identify policies and procedures of the jurisdiction

##### Requisite Skills

1. Use hand tools and equipment
2. Recognize system problems and out-of-service criteria
3. Correct any deficiency noted according to policies and procedures and/or manufacturer specifications and requirements

##### Content Modification

| Block | Modification                                                 | Justification                                  |
|-------|--------------------------------------------------------------|------------------------------------------------|
| JPR   | Added “and document”.                                        | None given. (2014)                             |
| JPR   | Added “of NFPA 1010 (2024)”.                                 | Added for clarification. (2024)                |
| RS1   | Added “and equipment”.                                       | Required to perform operational checks. (2014) |
| RS2   | Added “and out-of-service criteria”.                         | None given. (2014)                             |
| RS3   | Added “and/or manufacturer specifications and requirements”. | None given. (2014)                             |

### Cross Reference

| Course Plan                                                                                             | Skill Sheets | Task Book                                                                                       |
|---------------------------------------------------------------------------------------------------------|--------------|-------------------------------------------------------------------------------------------------|
| FADO 1C: Aerial Apparatus Operations (2024) <ul style="list-style-type: none"><li>• Topic 2-1</li></ul> | N/A          | Aerial Apparatus Driver/Operator (2024) <ul style="list-style-type: none"><li>• JPR 1</li></ul> |

## Section 8: Operations

### 8-1: Maneuver and Position an Aerial Apparatus

#### Authority

1. NFPA 1010: Standard on Professional Qualifications for Firefighters (2024)
  - Paragraph 13.3.1

#### Job Performance Requirement

Maneuver and position an aerial apparatus, given an aerial apparatus, an incident location, a situation description, and an assignment, so that the apparatus is positioned for correct aerial device deployment.

#### Requisite Knowledge

1. Identify capabilities and limitations of aerial devices related to reach, tip load, angle of inclination, and angle from chassis axis
2. Describe effects of topography, ground, and weather conditions on deployment
3. Describe use of the aerial device

#### Requisite Skills

1. Determine a correct position for the apparatus
2. Maneuver apparatus into the correct position
3. Avoid obstacles to operations

#### Content Modification

| Block | Modification                     | Justification                                 |
|-------|----------------------------------|-----------------------------------------------|
| RS2   | Changed “that” to “the correct”. | Grammar fix to properly reference RS1. (2014) |

#### Cross Reference

| Course Plan                                                                                             | Skill Sheets | Task Book                                                                                       |
|---------------------------------------------------------------------------------------------------------|--------------|-------------------------------------------------------------------------------------------------|
| FADO 1C: Aerial Apparatus Operations (2024) <ul style="list-style-type: none"><li>• Topic 3-1</li></ul> | N/A          | Aerial Apparatus Driver/Operator (2024) <ul style="list-style-type: none"><li>• JPR 2</li></ul> |

## 8-2: Stabilize an Aerial Apparatus

### Authority

1. NFPA 1010: Standard on Professional Qualifications for Firefighters (2024)
  - Paragraph 13.3.2

### Job Performance Requirement

Stabilize an aerial apparatus, given a positioned aerial apparatus and the manufacturer's specifications and requirements, so that power can be transferred to the aerial hydraulic system and the aerial can be deployed.

### Requisite Knowledge

1. Describe aerial apparatus hydraulic systems
2. Identify manufacturer's specifications for stabilization
3. Identify stabilization requirements
4. Describe effects of topography and ground conditions on stabilization

### Requisite Skills

1. Transfer power from the aerial apparatus engine to the hydraulic system
2. Operate aerial apparatus stabilization devices.

### Content Modification

| Block | Modification                                                       | Justification                                                  |
|-------|--------------------------------------------------------------------|----------------------------------------------------------------|
| JPR   | Replaced "vehicle" with "aerial apparatus".                        | Changed for consistency. (2014)                                |
| JPR   | Replaced "recommendations" with "specifications and requirements". | None given. (2014)                                             |
| JPR   | Changed "aerial device hydraulic" to "aerial hydraulic".           | To clarify that we mean the ladder and not the vehicle. (2017) |
| JPR   | Changed "device" to "aerial".                                      | To clarify that we mean the ladder and not the vehicle (2017)  |
| RS1   | Replaced "vehicle" with "aerial apparatus".                        | Changed for consistency. (2014)                                |
| RS2   | Replaced "vehicle" with "aerial apparatus".                        | Changed for consistency. (2014)                                |

### Cross Reference

| Course Plan                                                                                             | Skill Sheets | Task Book                                                                                       |
|---------------------------------------------------------------------------------------------------------|--------------|-------------------------------------------------------------------------------------------------|
| FADO 1C: Aerial Apparatus Operations (2024) <ul style="list-style-type: none"><li>• Topic 3-2</li></ul> | N/A          | Aerial Apparatus Driver/Operator (2024) <ul style="list-style-type: none"><li>• JPR 3</li></ul> |

### 8-3: Maneuver and Position an Aerial Ladder from Each Control Station

#### Authority

1. NFPA 1010: Standard on Professional Qualifications for Firefighters (2024)
  - Paragraph 13.3.3

#### Job Performance Requirement

Maneuver and position the aerial ladder from each control station (if applicable), given a stabilized aerial apparatus, an incident location, a situation description, and an assignment, so that the aerial ladder is positioned to accomplish the assignment.

#### Requisite Knowledge

1. Describe aerial hydraulic systems
2. Describe hydraulic pressure relief systems
3. Identify gauges and controls
4. Describe cable systems
5. Describe communications systems
6. Describe electrical systems
7. Describe emergency operating systems
8. Explain locking systems
9. Describe manual rotation and lowering systems
10. Describe stabilizing systems
11. Describe aerial safety systems
12. Describe system overrides and the hazards of using overrides
13. Describe safe operational limitations of the given aerial
14. Describe safety procedures specific to the aerial
15. Describe operations near electrical hazards and overhead obstructions

#### Requisite Skills

1. Raise, rotate, extend, and position to a specified location
2. Lock, unlock, retract, rotate, lower, and bed the aerial device

#### Content Modification

| Block | Modification                           | Justification                                                  |
|-------|----------------------------------------|----------------------------------------------------------------|
| JPR   | Changed “device” to “ladder”.          | Changed to be clearer and more specific. (2024)                |
| JPR   | Added “(if applicable)”.               | Most apparatus don’t have multiple stations anymore.           |
| JPR   | Added “a stabilized aerial apparatus”. | Required to complete JPR. (2014)                               |
| JPR   | Removed “device”.                      | To clarify that we mean the ladder and not the vehicle. (2017) |

Aerial Apparatus  
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|      |                               |                                                                |
|------|-------------------------------|----------------------------------------------------------------|
| RK1  | Removed “device”.             | To clarify that we mean the ladder and not the vehicle. (2017) |
| RK11 | Removed “device”.             | To clarify that we mean the ladder and not the vehicle. (2017) |
| RK13 | Removed “device”.             | To clarify that we mean the ladder and not the vehicle. (2017) |
| RK14 | Changed “device” to “aerial”. | To clarify that we mean the ladder and not the vehicle. (2017) |
| RS2  | Changed “device” to “aerial”. | To clarify that we mean the ladder and not the vehicle. (2017) |

### Cross Reference

| Course Plan                                                                                                                                          | Skill Sheets | Task Book                                                                                       |
|------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|-------------------------------------------------------------------------------------------------|
| FADO 1C: Aerial Apparatus Operations (2024) <ul style="list-style-type: none"><li>• Topic 3-2 (RK10)</li><li>• Topic 3-3 (everything else)</li></ul> | N/A          | Aerial Apparatus Driver/Operator (2024) <ul style="list-style-type: none"><li>• JPR 4</li></ul> |

## 8-4: Lower an Aerial Ladder Using the Emergency Operating System

### Authority

1. NFPA 1010: Standard on Professional Qualifications for Firefighters (2024)
  - Paragraph 13.3.4

### Job Performance Requirement

Lower an aerial ladder using the emergency operating system, given an aerial, so that the aerial ladder is lowered to its bedded position.

### Requisite Knowledge

1. Describe aerial hydraulic systems
2. Describe hydraulic pressure relief systems
3. Identify gauges and controls
4. Describe cable systems
5. Describe communications systems
6. Describe electrical systems
7. Describe emergency operating systems
8. Describe locking systems
9. Describe manual rotation and lowering systems
10. Describe stabilizing systems
11. Describe aerial safety systems
12. Describe system overrides to and the hazards of using overrides
13. Describe safe operational limitations of the given aerial
14. Describe safety procedures specific to the aerial
15. Describe operations near electrical hazards and overhead obstructions

### Requisite Skills

1. Rotate and position to center
2. Unlock, retract, lower, and bed the aerial device using the emergency operating system

### Content Modification

| Block | Modification                                                       | Justification                                                  |
|-------|--------------------------------------------------------------------|----------------------------------------------------------------|
| JPR   | Removed “device” in three places and added “ladder” in two places. | To clarify that we mean the ladder and not the vehicle. (2024) |
| RK1   | Removed “device”.                                                  | To clarify that we mean the ladder and not the vehicle. (2017) |
| RK11  | Removed “device”.                                                  | To clarify that we mean the ladder and not the vehicle. (2017) |
| RK11  | Added “specific to aerial override systems”.                       | Added to clarify scope of “safety systems”. (2017)             |

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|      |                               |                                                                |
|------|-------------------------------|----------------------------------------------------------------|
| RK13 | Removed “device”.             | To clarify that we mean the ladder and not the vehicle. (2017) |
| RK14 | Changed “device” to “aerial”. | To clarify that we mean the ladder and not the vehicle. (2017) |

**Cross Reference**

| Course Plan                                                                                                                                                                                                              | Skill Sheets | Task Book                                                                                       |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|-------------------------------------------------------------------------------------------------|
| FADO 1C: Aerial Apparatus Operations (2024) <ul style="list-style-type: none"><li>• Topic 3-3 (RK2, RK4, RK5, RK6, RK8, RK11, RK12, RK15)</li><li>• Topic 3-4 (RK1, RK3, RK7, RK9, RK10, RK13, RK14, RS1, RS2)</li></ul> | N/A          | Aerial Apparatus Driver/Operator (2024) <ul style="list-style-type: none"><li>• JPR 5</li></ul> |

## 8-5: Deploy and Operate an Elevated Master Stream

### Authority

1. NFPA 1010: Standard on Professional Qualifications for Firefighters (2024)
  - Paragraph 13.3.5
2. Office of the State Fire Marshal

### Job Performance Requirement

Deploy and operate an elevated master stream, given a stabilized aerial, a master stream device, and a desired flow, so that the stream is effective.

### Requisite Knowledge

1. Explain nozzle reaction
2. Explain range of operation
3. Identify weight limitations
4. Describe a removeable/temporary ladder pipe master stream

### Requisite Skills

1. Connect a water supply to a master stream device
2. Control an elevated nozzle

### Content Modification

| Block | Modification        | Justification                                                                                   |
|-------|---------------------|-------------------------------------------------------------------------------------------------|
| JPR   | Added “stabilized”. | None given. (2014)                                                                              |
| JPR   | Removed “device”.   | To clarify that we mean the ladder and not the vehicle. (2017)                                  |
| RK4   | Added new item.     | This is what most ladders are using right now. They don’t have a fixed waterway anymore. (2017) |

### Cross Reference

| Course Plan                                                                                             | Skill Sheets | Task Book                                                                                       |
|---------------------------------------------------------------------------------------------------------|--------------|-------------------------------------------------------------------------------------------------|
| FADO 1C: Aerial Apparatus Operations (2024) <ul style="list-style-type: none"><li>• Topic 3-5</li></ul> | N/A          | Aerial Apparatus Driver/Operator (2024) <ul style="list-style-type: none"><li>• JPR 6</li></ul> |

# Tillered Apparatus

## Section 9: Preventative Maintenance

### 9-1: Perform and Document Visual and Operational Checks

#### Authority

1. Office of the State Fire Marshal

#### Job Performance Requirement

Perform and document the visual and operational checks on the system and components unique to a tillered apparatus, given a tillered apparatus, tools and equipment, maintenance and inspection forms, manufacturer specifications and requirements, and policies and procedures of the jurisdiction, so that the operational readiness of the tillered apparatus is verified.

#### Requisite Knowledge

1. Identify manufacturer specifications and requirements
2. Identify AHJ policies and procedures including documentation requirements
3. Identify vehicle systems and components
4. Describe systems and components unique to a tillered apparatus

#### Requisite Skills

1. Use hand tools and equipment
2. Inspect tillered apparatus and components
3. Recognize system problems and out-of-service criteria
4. Correct any deficiency noted according to policies and procedures and/or manufacturer specifications and requirements

#### Content Modification

| Block | Modification          | Justification                                                                                          |
|-------|-----------------------|--------------------------------------------------------------------------------------------------------|
| CTS   | Added a new standard. | NFPA does not have a maintenance standard for tillered apparatus, but they still required maintenance. |

#### Cross Reference

| Course Plan                                                                                               | Skill Sheets | Task Book                                                                                         |
|-----------------------------------------------------------------------------------------------------------|--------------|---------------------------------------------------------------------------------------------------|
| FADO 1D: Tillered Apparatus Operations (2024) <ul style="list-style-type: none"><li>• Topic 2-1</li></ul> | N/A          | Tillered Apparatus Driver/Operator (2024) <ul style="list-style-type: none"><li>• JPR 1</li></ul> |

## Section 10: Operations

### 10-1: Perform Practical Driving Exercises

#### Authority

1. NFPA 1010: Standard on Professional Qualifications for Firefighters (2024)
  - Paragraph 14.2.1
2. Office of the State Fire Marshal

#### Job Performance Requirement

Perform the practical driving exercises specified in 11.3.2 through 11.3.5 in NFPA 1010 (2024) from the tractor and the tiller position, given a qualified driver/operator, an aerial apparatus equipped with a tiller, manufacturer requirements and specifications, and AHJ policies and procedures, so that each exercise is performed without striking the apparatus or obstructions.

#### Requisite Knowledge

1. Describe the capabilities and limitations of tiller aerial devices related to reach, tip load, angle of inclination, and angle from chassis axis
2. Identify effects of topography, ground, and weather conditions on safe deployment
3. Describe how to use a tiller aerial device
4. Describe tiller operator's responsibility
5. Identify methods of communication with apparatus driver/operator
6. Describe effects of general steering reactions on tiller control
7. Describe manufacturer's operation limitations

#### Requisite Skills

1. Determine a correct position for the tiller
2. Maneuver the tiller into the correct position
3. Communicate with the apparatus driver/operator
4. Avoid obstacles to operations

#### Content Modification

| Block | Modification                      | Justification                                                                                                                                                       |
|-------|-----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| JPR   | Added "in NFPA 1010 (2024)".      | Added for clarification. (2024)                                                                                                                                     |
| JPR   | Added "the tractor and".          | Understanding how to drive from the front is just as important as from the back. It's a team effort and the driver/operator needs to know how to do both positions. |
| JPR   | Added "/operator".                | Added for consistency with certification title. (2014)                                                                                                              |
| JPR   | Removed "spotter for backing up". | This is a safety issue. The candidates are not experienced enough to safely not hit the spotter at this point.                                                      |

Tillered Apparatus  
Section 10: Operations

|     |                                                       |                                                       |
|-----|-------------------------------------------------------|-------------------------------------------------------|
| JPR | Added “manufacturer requirements and specifications”. | Required to perform JPR. (2014)                       |
| JPR | Added “and AHJ policies and procedures”.              | Required to perform JPR. (2014)                       |
| JPR | Changed “vehicle” to “apparatus”.                     | Changed for consistency. (2014)                       |
| RK4 | Added new RK item.                                    | Added by 2014 cadre. 2017 cadre opted to keep. (2017) |
| RK5 | Added new RK item.                                    | Added by 2014 cadre. 2017 cadre opted to keep. (2017) |
| RK6 | Added new RK item.                                    | Added by 2014 cadre. 2017 cadre opted to keep. (2017) |
| RK7 | Added new RK item.                                    | Added by 2014 cadre. 2017 cadre opted to keep. (2017) |
| RS2 | Replaced “that” with “the correct”.                   | Revised for pronoun clarification. (2014).            |
| RS3 | Added new RS item.                                    | NFPA does not address communications.                 |

### Cross Reference

| Course Plan                                                                                                                                                                               | Skill Sheets | Task Book                                                                                           |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|-----------------------------------------------------------------------------------------------------|
| FADO 1D: Tillered Apparatus Operations (2024) <ul style="list-style-type: none"> <li>• Topic 3-1 (RK4, RK5, RK6, RK7, RS3, RS4)</li> <li>• Topic 3-2 (RK1, RK2, RK3, RS1, RS2)</li> </ul> | N/A          | Tillered Apparatus Driver/Operator (2024) <ul style="list-style-type: none"> <li>• JPR 2</li> </ul> |

## 10-2: Operate a Tillered Apparatus

### Authority

1. NFPA 1010: Standard on Professional Qualifications for Firefighters (2024)
  - Paragraph 14.2.2
2. Office of the State Fire Marshal

### Job Performance Requirement

Operate an aerial apparatus equipped with a tiller from the tiller and the tractor position over a predetermined route on a public way that incorporates the maneuvers and features that the driver/operator is expected to encounter during normal operations (NFPA 1010 paragraph 11.3.1), given another driver/operator and an aerial apparatus equipped with a tiller, so that the apparatus is operated in compliance with all applicable state and local laws, departmental rules and regulations, and the requirements of NFPA 1500, Section 4.2.

### Requisite Knowledge

1. Describe principles of tiller operation
2. Describe methods of communication with the driver
3. Describe effects on tiller control on general steering reactions, night driving, and negotiating intersections
4. Describe manufacturer operation limitations

### Requisite Skills

1. Operate the communication system between the tiller operator's position and the driver's compartment
2. Operate passenger restraint devices
3. Maintain control of the tiller while accelerating, decelerating, and turning
4. Operate the tiller during nonemergency conditions
5. Operate under adverse environmental or driving surface conditions

### Content Modification

| Block | Modification                                                                                                                                          | Justification                                                                                                                                                       |
|-------|-------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| JPR   | Added "and the tractor".                                                                                                                              | Understanding how to drive from the front is just as important as from the back. It's a team effort and the driver/operator needs to know how to do both positions. |
| JPR   | Added "that incorporates the maneuvers and features that the driver/operator is expected to encounter during normal operations (NFPA 1010 paragraph". | This spells out the requirements specified in 11.3.1 so the user does not have to look it up to complete this JPR.                                                  |

## Tillered Apparatus

### Section 10: Operations

|     |                                                     |                                                                                                                 |
|-----|-----------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
| JPR | Removed “and spotter for backing up” in two places. | This is a safety issue. The candidates are not experienced enough to safely not hit the spotter at this point.  |
| JPR | Replaced “a qualified” with “another”.              | There is no guarantee that the other driver/operator will be qualified, especially during training and testing. |
| JPR | Added “/operator”.                                  | Added for consistency with certification title. (2014)                                                          |
| JPR | Changed “vehicle” to “apparatus”.                   | Changed for consistency. (2014)                                                                                 |
| RK3 | Replaced “vehicle” with “tiller”.                   | Changed for consistency. (2014)                                                                                 |
| RS4 | Replaced “vehicle” with “tiller”.                   | Changed for consistency. (2014)                                                                                 |

### Cross Reference

| Course Plan                                                                                                                                                                     | Skill Sheets | Task Book                                                                                           |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|-----------------------------------------------------------------------------------------------------|
| FADO 1D: Tillered Apparatus Operations (2024) <ul style="list-style-type: none"> <li>• Topic 3-1 (RK3, RS2, RS3, RS4, RS5)</li> <li>• Topic 3-2 (RK1, RK2, RK4, RS1)</li> </ul> | N/A          | Tillered Apparatus Driver/Operator (2024) <ul style="list-style-type: none"> <li>• JPR 3</li> </ul> |

### 10-3: Position and Stabilize a Tillered Apparatus

#### Authority

1. NFPA 1010: Standard on Professional Qualifications for Firefighters (2024)
  - Paragraph 14.2.3
2. Office of the State Fire Marshal

#### Job Performance Requirement

Position an aerial apparatus equipped with a tiller from the tractor and the tiller position, given an aerial apparatus equipped with a tiller, another driver/operator, the apparatus operating instructions, an incident location, a situation description, and an assignment, so that the aerial device is positioned and stabilized to accomplish the assignment.

#### Requisite Knowledge

1. Explain principles of positioning and stabilizing an aerial apparatus from the tiller position

#### Requisite Skills

1. Determine a correct position for the tiller
2. Maneuver the tiller into the correct position
3. Avoid obstacles to operations

#### Content Modification

| Block | Modification                                        | Justification                                                                                                                                                       |
|-------|-----------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| JPR   | Added “the tractor and”.                            | Understanding how to drive from the front is just as important as from the back. It’s a team effort and the driver/operator needs to know how to do both positions. |
| JPR   | Added “an aerial apparatus equipped with a tiller.” | Required to complete JPR. (2014)                                                                                                                                    |
| JPR   | Added “another driver/operator”.                    | Added for consistency with other JPR givens. (2014)                                                                                                                 |
| RK2   | Replaced “that” with “the correct”.                 | Revised for pronoun clarification. (2014).                                                                                                                          |

#### Cross Reference

| Course Plan                                                                                               | Skill Sheets | Task Book                                                                                         |
|-----------------------------------------------------------------------------------------------------------|--------------|---------------------------------------------------------------------------------------------------|
| FADO 1D: Tillered Apparatus Operations (2024) <ul style="list-style-type: none"><li>• Topic 3-3</li></ul> | N/A          | Tillered Apparatus Driver/Operator (2024) <ul style="list-style-type: none"><li>• JPR 4</li></ul> |

# Wildland Fire Suppression

## Section 11: Communications

### 11-1: Initiate the Response to a Reported Emergency

#### Authority

1. NFPA 1010: Standard on Professional Qualifications for Firefighters (2024)
  - Paragraph 15.2.1

#### Job Performance Requirement

Initiate the response to a reported emergency, given the report of an emergency, fire department SOPs, and communications equipment and technology, so that all necessary information is obtained, communications equipment and technology are operated correctly, and the information is relayed promptly and accurately to the dispatch center.

#### Requisite Knowledge

1. Describe procedures for reporting an emergency
2. Describe departmental SOPs for taking and receiving alarms
3. Identify the information needs of the dispatch center

#### Requisite Skills

1. Operate fire department communications equipment and technology
2. Relay information
3. Record information

#### Content Modification

| Block | Modification | Justification |
|-------|--------------|---------------|
|       |              |               |

#### Cross Reference

| Course Plan                                                                                      | Skill Sheets | Task Book |
|--------------------------------------------------------------------------------------------------|--------------|-----------|
| Testing and validation for this standard is fulfilled through OSFM Fire Fighter 1 certification. | N/A          | N/A       |

## 11-2: Transmit and Receive Communications

### Authority

1. NFPA 1010: Standard on Professional Qualifications for Firefighters (2024)
  - Paragraph 15.2.2

### Job Performance Requirement

Transmit and receive communications using fire department equipment and technology, given equipment and technology and operating procedures, so that the information is accurate, complete, clear, and relayed within the timeframe established by the AHJ.

### Requisite Knowledge

1. Describe departmental communication procedures and etiquette for routine traffic
2. Describe emergency traffic
3. Describe emergency evacuation signals

### Requisite Skills

1. Operate communications equipment and technology
2. Discriminate between routine and emergency traffic

### Content Modification

| Block | Modification | Justification |
|-------|--------------|---------------|
|       |              |               |

### Cross Reference

| Course Plan                                                                                      | Skill Sheets | Task Book |
|--------------------------------------------------------------------------------------------------|--------------|-----------|
| Testing and validation for this standard is fulfilled through OSFM Fire Fighter 1 certification. | N/A          | N/A       |

## Section 12: Preventative Maintenance

### 12-1: Perform and Document Visual and Operational Checks

#### Authority

1. NFPA 1010: Standard on Professional Qualifications for Firefighters (2024)
  - Paragraph 15.3.1

#### Job Performance Requirement

Perform and document the visual and operational checks on the systems and components specified in the following list (water tank or other extinguishing agent levels (if applicable), pumping systems, foam systems, four-wheel drive system), in addition to those in 11.2.1 in NFPA 1010 (2024), given a wildland fire apparatus, tools and equipment, manufacturer's specifications, and policies and procedures of the jurisdiction, so that the operational status is verified.

#### Requisite Knowledge

1. Describe manufacturer's specifications and requirements
2. Describe policies and procedures of the jurisdiction, including documentation requirements

#### Requisite Skills

1. Use hand tools and equipment
2. Recognize system problems and out-of-service criteria
3. Correct any deficiency noted according to policies and procedures and/or manufacturer specifications and requirements

#### Content Modification

| Block | Modification                                                 | Justification                           |
|-------|--------------------------------------------------------------|-----------------------------------------|
| JPR   | Added "and document".                                        | None given. (2014)                      |
| JPR   | Added "four-wheel drive system".                             | None given. (2014)                      |
| JPR   | Added "in NFPA 1010 (2024)".                                 | Added for clarification. (2024)         |
| JPR   | Added "tools and equipment".                                 | Required to complete JPR. (2014)        |
| RK2   | Added "including documentation requirements".                | None given. (2014)                      |
| RS1   | Added "and equipment".                                       | Required to complete JPR. (2014)        |
| RS2   | Added "and out-of-service criteria".                         | None given. (2014)                      |
| RS3   | Added "and/or manufacturer specifications and requirements." | Included in Requisite Knowledge. (2014) |

### Cross Reference

| Course Plan                                                                                                    | Skill Sheets | Task Book                                                                                              |
|----------------------------------------------------------------------------------------------------------------|--------------|--------------------------------------------------------------------------------------------------------|
| FADO 1E: Wildland Fire Apparatus Operations (2024) <ul style="list-style-type: none"><li>• Topic 2-1</li></ul> | N/A          | Wildland Fire Apparatus Driver/Operator (2024) <ul style="list-style-type: none"><li>• JPR 1</li></ul> |

## Section 13: Driving

### 13-1: Operate a Wildland Fire Apparatus

#### Authority

1. NFPA 1010: Standard on Professional Qualifications for Firefighters (2024)
  - Paragraph 15.4.1

#### Job Performance Requirement

Operate a wildland fire apparatus, given a wildland fire apparatus, a predetermined route on and off of a public way that incorporates the maneuvers and features that the driver/operator is expected to encounter during normal operations, applicable laws and regulations, and AHJ policies and procedures, so that the vehicle is operated in compliance with all applicable jurisdictional rules and regulations and operational limitations of the apparatus.

#### Requisite Knowledge

1. Explain the effects on vehicle control of braking reaction time and load factors
2. Explain the effects of high center of gravity on rollover potential, general steering reactions, speed, and centrifugal force
3. Identify applicable laws and regulations
4. Describe principles of skid avoidance, night driving, shifting, and gear patterns
5. Describe how to negotiate intersections, railroad crossings, and bridges
6. Identify weight and height limitations for both roads and bridges
7. Describe how to identify and operate automotive gauges
8. Explain operational limits

#### Requisite Skills

1. Operate passenger restraint devices
2. Maintain safe following distances
3. Maintain control of the wildland fire apparatus while accelerating, decelerating, and turning, given road, weather, and traffic conditions
4. Operate during nonemergency conditions
5. Operate under adverse environmental or driving surface conditions
6. Use automotive gauges and controls

#### Content Modification

| Block | Modification                             | Justification                                                      |
|-------|------------------------------------------|--------------------------------------------------------------------|
| JPR   | Added "a wildland fire apparatus".       | Required to complete JPR. (2014)                                   |
| JPR   | Added "on and".                          | You must drive on surface streets to get to off-road areas. (2024) |
| JPR   | Added "applicable laws and regulations". | None given. (2014)                                                 |
| JPR   | Added "and AHJ policies and procedures". | None given. (2014)                                                 |

## Wildland Fire Apparatus

### Section 13: Driving

|     |                                                    |                                  |
|-----|----------------------------------------------------|----------------------------------|
| JPR | Replaced “departmental” with “jurisdictional”.     | None given. (2014)               |
| JPR | Replaced “design” with “operational”.              | None given. (2014)               |
| JPR | Replaced “vehicle” with “apparatus”.               | Replaced for consistency. (2014) |
| RS3 | Replaced “vehicle” with “wildland fire apparatus”. | Replaced for consistency. (2014) |

### Cross Reference

| Course Plan                                                                                                    | Skill Sheets | Task Book                                                                                              |
|----------------------------------------------------------------------------------------------------------------|--------------|--------------------------------------------------------------------------------------------------------|
| FADO 1E: Wildland Fire Apparatus Operations (2024) <ul style="list-style-type: none"><li>• Topic 3-1</li></ul> | N/A          | Wildland Fire Apparatus Driver/Operator (2024) <ul style="list-style-type: none"><li>• JPR 2</li></ul> |

## Section 14: Operations

### 14-1: Produce Effective Fire Streams

#### Authority

1. NFPA 1010: Standard on Professional Qualifications for Firefighters (2024)
  - Paragraph 15.5.1

#### Job Performance Requirement

Produce effective fire streams, given a wildland fire apparatus and the sources specified in the following list (water tank, pressurized water source, static water source) so that the pump is engaged, all pressure-control and vehicle safety devices are set, the rated flow of the nozzle is achieved, and the apparatus is monitored for potential problems.

#### Requisite Knowledge

1. Describe hydraulic calculations for friction loss and flow using both written formulas and estimation methods
2. Describe safe operation of the pump
3. Describe correct apparatus placement
4. Describe personal safety considerations
5. Identify problems related to small-diameter or dead-end mains and low-pressure and private water supply systems
6. Identify the reliability of static sources

#### Requisite Skills

1. Position a wildland fire apparatus to operate at a fire hydrant and at a static water source
2. Position apparatus for fire attack
3. Transfer power from vehicle engine to pump
4. Draft
5. Operate apparatus pressure control systems
6. Operate the volume/pressure transfer valve (multistage pumps only)
7. Operate auxiliary cooling systems
8. Make the transition between internal and external water sources
9. Assemble hose lines, nozzles, valves, and appliances

#### Content Modification

| Block | Modification                                       | Justification                                                                                                              |
|-------|----------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|
| JPR   | Added "a wildland fire apparatus".                 | Required to complete JPR. (2014)                                                                                           |
| JPR   | Added "water" in two places.                       | Added for clarification. (2014)                                                                                            |
| RK    | Removed RK item "Describe hydrant coding systems". | Too specific to be applicable in this course. This would be taught at the Firefighter level within the candidate's agency. |

|     |                                     |                                 |
|-----|-------------------------------------|---------------------------------|
| RS2 | Replaced “place” with “position”.   | None given. (2014)              |
| RS5 | Replaced “pumper” with “apparatus”. | Changed for consistency. (2017) |

**Cross Reference**

| Course Plan                                                                                                    | Skill Sheets | Task Book                                                                                                                                                                          |
|----------------------------------------------------------------------------------------------------------------|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| FADO 1E: Wildland Fire Apparatus Operations (2024) <ul style="list-style-type: none"><li>• Topic 3-2</li></ul> | N/A          | Wildland Fire Apparatus Driver/Operator (2024) <ul style="list-style-type: none"><li>• JPR 3 (tank)</li><li>• JPR 4 (pressurized source)</li><li>• JPR 5 (static source)</li></ul> |

## 14-2: Pump a Supply Line

### Authority

1. NFPA 1010: Standard on Professional Qualifications for Firefighters (2024)
  - Paragraph 15.5.2

### Job Performance Requirement

Pump a supply line, given a wildland fire apparatus and a relay pumping evolution the length and size of the line and pumping flow and desired intake pressure, so that correct intake pressures and flow are provided to the next pumping apparatus in the relay.

### Requisite Knowledge

1. Describe hydraulic calculations for friction loss and flow using both written formulas and estimate methods
2. Describe safe operation of the pump
3. Identify problems related to small-diameter or dead-end mains and low-pressure and private water supply systems
4. Describe hydrant coding systems
5. Identify reliability of static sources

### Requisite Skills

1. Position a wildland fire apparatus to operate at a fire hydrant and at a static water source
2. Transfer power from vehicle engine to pump
3. Draft
4. Operate apparatus pressure control systems
5. Operate the volume/pressure transfer valve (multistage pumps only)
6. Operate auxiliary cooling systems
7. Make the transition between internal and external water sources
8. Assemble hose lines, nozzles, valves, and appliance

### Content Modification

| Block | Modification                             | Justification                    |
|-------|------------------------------------------|----------------------------------|
| JPR   | Added "a wildland fire apparatus".       | Required to complete JPR. (2014) |
| JPR   | Changed "pumper" to "pumping apparatus". | Changed for consistency. (2017)  |
| RS1   | Added "fire".                            | Added for consistency. (2014)    |
| RS4   | Changed "pumper" to "apparatus".         | Changed for consistency. (2017)  |

### Cross Reference

| Course Plan                                                                                              | Skill Sheets | Task Book                                                                                              |
|----------------------------------------------------------------------------------------------------------|--------------|--------------------------------------------------------------------------------------------------------|
| FADO 1B: Pumping Apparatus Operations (2024) <ul style="list-style-type: none"><li>• Topic 4-5</li></ul> | N/A          | Wildland Fire Apparatus Driver/Operator (2024) <ul style="list-style-type: none"><li>• JPR 6</li></ul> |

### 14-3: Produce a Foam Fire Stream

#### Authority

1. NFPA 1010: Standard on Professional Qualifications for Firefighters (2024)
  - Paragraph 15.5.3

#### Job Performance Requirement

Produce a foam stream, given foam-producing equipment, so that the correct proportion of foam is provided.

#### Requisite Knowledge

1. Describe proportioning rates and concentrations
2. Describe equipment assembly procedures
3. Describe foam systems limitations
4. Identify manufacturer's specifications

#### Requisite Skills

1. Operate foam proportioning equipment
2. Connect foam stream equipment

#### Content Modification

| Block | Modification | Justification |
|-------|--------------|---------------|
|       |              |               |

#### Cross Reference

| Course Plan                                                                                              | Skill Sheets | Task Book                                                                                              |
|----------------------------------------------------------------------------------------------------------|--------------|--------------------------------------------------------------------------------------------------------|
| FADO 1B: Pumping Apparatus Operations (2024) <ul style="list-style-type: none"><li>• Topic 4-6</li></ul> | N/A          | Wildland Fire Apparatus Driver/Operator (2024) <ul style="list-style-type: none"><li>• JPR 7</li></ul> |

# Water Tender

## Section 15: Communications

### 15-1: Initiate the Response to a Reported Emergency

#### Authority

1. NFPA 1010: Standard on Professional Qualifications for Firefighters (2024)
  - Paragraph 17.2.1

#### Job Performance Requirement

Initiate the response to a reported emergency, given the report of an emergency, fire department standard operating procedures (SOPs), and communications equipment and technology, so that all necessary information is obtained, communications equipment and technology are operated correctly, and the information is relayed promptly and accurately to the dispatch center.

#### Requisite Knowledge

1. Describe procedures for reporting an emergency
2. Identify departmental SOPs for taking and receiving alarms
3. Identify information needs of the dispatch center

#### Requisite Skills

1. Operate fire department communications equipment and technology
2. Relay information
3. Record information

#### Content Modification

| Block | Modification | Justification |
|-------|--------------|---------------|
|       |              |               |

#### Cross Reference

| Course Plan                                                                                      | Skill Sheets | Task Book |
|--------------------------------------------------------------------------------------------------|--------------|-----------|
| Testing and validation for this standard is fulfilled through OSFM Fire Fighter 1 certification. | N/A          | N/A       |

## 15-2: Transmit and Receive Communications

### Authority

1. NFPA 1010: Standard on Professional Qualifications for Firefighters (2024)
  - Paragraph 17.2.2

### Job Performance Requirement

Transmit and receive communications using fire department equipment and technology, given equipment and technology and operating procedures, so that the information is accurate, complete, clear, and relayed within the timeframe established by the AHJ.

### Requisite Knowledge

1. Describe departmental communication procedures and etiquette for routine traffic
2. Describe emergency traffic
3. Describe emergency evacuation signals

### Requisite Skills

4. Operate communications equipment and technology
5. Discriminate between routine and emergency traffic

### Content Modification

| Block | Modification | Justification |
|-------|--------------|---------------|
|       |              |               |

### Cross Reference

| Course Plan                                                                                      | Skill Sheets | Task Book |
|--------------------------------------------------------------------------------------------------|--------------|-----------|
| Testing and validation for this standard is fulfilled through OSFM Fire Fighter 1 certification. | N/A          | N/A       |

## Section 16: Preventative Maintenance

### 16-1: Perform and Document Visual and Operational Checks

#### Authority

1. NFPA 1010: Standard on Professional Qualifications for Firefighters (2024)
  - Paragraph 17.3.1

#### Job Performance Requirement

Perform and document visual and operational checks on the systems and components specified in the following list (water tank and other extinguishing agent levels (if applicable), pumping system (if applicable), rapid dump system (if applicable), foam system (if applicable)) in addition to those specified in 11.2.1 in NFPA 1010 (2024), given a water tender, tools and equipment, manufacturer specifications and requirements, maintenance and inspection forms, and policies and procedures of the AHJ, so that the operational readiness of the water tender is verified.

#### Requisite Knowledge

1. Identify manufacturer specifications and requirements
2. Identify policies and procedures of the AHJ, including documentation requirements

#### Requisite Skills

1. Use tools and equipment
2. Recognize system problems and out-of-service criteria
3. Correct any deficiency noted according to policies and procedures and/or manufacturer specifications and requirements

#### Content Modification

| Block | Modification                                                  | Justification                           |
|-------|---------------------------------------------------------------|-----------------------------------------|
| JPR   | Added “and document”.                                         | None given. (2014)                      |
| JPR   | Added “in NFPA 1010 (2024)”.                                  | Added for clarification. (2024)         |
| JPR   | Replaced “mobile water supply apparatus” with “water tender”. | Replaced for consistency. (2014)        |
| JPR   | Added “tools and equipment”.                                  | Required to complete JPR. (2014)        |
| JPR   | Added “manufacturer specifications and requirements”.         | Included in Requisite Knowledge. (2014) |
| JPR   | Added “maintenance and inspection forms”.                     | None given. (2014)                      |
| JPR   | Replaced “mobile water supply” with “water tender”.           | Replaced for consistency. (2014)        |
| RK2   | Added “including documentation requirements”.                 | None given. (2014)                      |
| RS1   | Added “and equipment”.                                        | None given. (2014)                      |
| RS2   | Added “and out-of-service criteria”.                          | None given. (2014)                      |

|     |                                                              |                                         |
|-----|--------------------------------------------------------------|-----------------------------------------|
| RS3 | Added “and/or manufacturer specifications and requirements”. | Included in Requisite Knowledge. (2014) |
|-----|--------------------------------------------------------------|-----------------------------------------|

### Cross Reference

| Course Plan                                                                                         | Skill Sheets | Task Book                                                                                   |
|-----------------------------------------------------------------------------------------------------|--------------|---------------------------------------------------------------------------------------------|
| FADO 1F: Water Tender Operations (2024) <ul style="list-style-type: none"> <li>Topic 2-1</li> </ul> | N/A          | Water Tender Driver/Operator (2024) <ul style="list-style-type: none"> <li>JPR 1</li> </ul> |

## Section 17: Operations

### 17-1: Operate a Water Tender

#### Authority

1. Office of the State Fire Marshal

#### Job Performance Requirement

Operate a water tender, given a water tender, a predetermined route off of a public way that incorporates the maneuvers and features that the driver/operator is expected to encounter during normal operation, applicable laws and regulations, and AHJ policies and procedures, so that the water tender is operated in compliance with all applicable jurisdictional rules and regulations and operational limitations of the water tender.

#### Requisite Knowledge

1. Recognize water tender resource typing
2. Identify water tender uses
3. Explain the effects on vehicle control of braking reaction time and load factors
4. Explain the effects of high center of gravity on roll-over potential, general steering reactions, speed, and centrifugal force
5. Identify policies and procedures of the jurisdiction
6. Describe principles of skid avoidance, night driving, shifting, and gear patterns
7. Describe how to negotiate intersections, railroad crossings, soft shoulders, grade, and bridges
8. Identify weight and height limitations for both roads and bridges
9. Explain operational limits
10. Identify off-pavement water tender emergencies
11. Describe potential causes of water tender accidents

#### Requisite Skills

1. Operate passenger restraint devices
2. Maintain safe following distances
3. Maintain control of the water tender while accelerating, decelerating, and turning, given road, weather, and traffic conditions
4. Operate the tender under adverse environmental or driving surface conditions
5. Use automotive gauges and controls

#### Content Modification

| Block | Modification                                 | Justification                 |
|-------|----------------------------------------------|-------------------------------|
| CTS   | Added a new certification training standard. | Not addressed in NFPA. (2014) |

### Cross Reference

| Course Plan                                                                                         | Skill Sheets | Task Book                                                                                   |
|-----------------------------------------------------------------------------------------------------|--------------|---------------------------------------------------------------------------------------------|
| FADO 1F: Water Tender Operations (2024) <ul style="list-style-type: none"><li>• Topic 3-1</li></ul> | N/A          | Water Tender Driver/Operator (2024) <ul style="list-style-type: none"><li>• JPR 2</li></ul> |

## 17-2: Maneuver and Position a Water Tender at a Water Shuttle Fill Site

### Authority

1. NFPA 1010: Standard on Professional Qualifications for Firefighters (2024)
  - Paragraph 17.4.1
2. Office of the State Fire Marshal

### Job Performance Requirement

Maneuver and position a water tender at a water shuttle fill site, given a water tender, fill site location, and one or more supply hose, so that the water tender is positioned, supply hoses are attached to the intake connections without having to stretch additional hose, and no objects are struck at the fill site.

### Requisite Knowledge

1. Describe local procedures for establishing a water shuttle fill site
2. Describe how to correctly position a water tender at a water shuttle fill site
3. Describe how to mark the stopping position of the water tender
4. Describe how to locate the water tank intakes on the water tender
5. Describe how to attach supply hose(s) to the intake connector

### Requisite Skills

1. Determine a correct position for the water tender
2. Maneuver water tender into correct position
3. Avoid obstacles to operations

### Content Modification

| Block | Modification                                                                            | Justification                       |
|-------|-----------------------------------------------------------------------------------------|-------------------------------------|
| JPR   | Replaced “mobile water supply apparatus” with “water tender”.                           | Replaced for consistency. (2014)    |
| JPR   | Added “water tender”.                                                                   | Required to complete JPR. (2014)    |
| JPR   | Replaced “apparatus” with “water tender”.                                               | Replaced for consistency. (2014)    |
| RK2   | Added “Describe how to correctly position a water tender at a water shuttle fill site”. | None given. (2014)                  |
| RK3   | Replaced “apparatus” with “water tender”.                                               | Replaced for consistency. (2014)    |
| RK4   | Replaced “apparatus” with “water tender”.                                               | Replaced for consistency. (2014)    |
| RK5   | Added new RK item.                                                                      | Training needed to meet JPR. (2017) |
| RS1   | Replaced “apparatus” with “water tender”.                                               | Replaced for consistency. (2014)    |
| RS2   | Replaced “apparatus” with “water tender”.                                               | Replaced for consistency. (2014)    |
| RS2   | Replaced “that” with “correct”.                                                         | Replaced for clarity. (2014)        |

### Cross Reference

| Course Plan                                                                                         | Skill Sheets | Task Book                                                                                   |
|-----------------------------------------------------------------------------------------------------|--------------|---------------------------------------------------------------------------------------------|
| FADO 1F: Water Tender Operations (2024) <ul style="list-style-type: none"><li>• Topic 3-2</li></ul> | N/A          | Water Tender Driver/Operator (2024) <ul style="list-style-type: none"><li>• JPR 3</li></ul> |

### 17-3: Maneuver and Position a Water Tender at a Water Shuttle Dump Site

#### Authority

1. NFPA 1010: Standard on Professional Qualifications for Firefighters (2024)
  - Paragraph 17.4.2

#### Job Performance Requirement

Maneuver and position a water tender at a water shuttle dump site, given a water tender, a dump site, and a portable water tank, so that all the water being discharged from the water tender enters the portable tank and no objects are struck at the dump site.

#### Requisite Knowledge

1. Describe local procedures for operating a water tender at a water shuttle dump site
2. Identify how to locate water tank discharges on the water tender

#### Requisite Skills

1. Determine a correct position for the water tender
2. Maneuver water tender into correct position
3. Avoid obstacles to operations
4. Operate the fire pump or rapid water dump system

#### Content Modification

| Block | Modification                                                  | Justification                       |
|-------|---------------------------------------------------------------|-------------------------------------|
| JPR   | Replaced “mobile water supply apparatus” with “water tender”. | Replaced for consistency. (2014)    |
| JPR   | Added “a water tender”.                                       | Required to complete JPR. (2014)    |
| JPR   | Replaced “apparatus” with “water tender”.                     | Replaced for consistency. (2014)    |
| RK1   | Added “a water tender at”.                                    | None given. (2014)                  |
| RK2   | Replaced “apparatus” with “water tender”.                     | Replaced for consistency. (2014)    |
| RS1   | Replaced “apparatus” with “water tender”.                     | Replaced for consistency. (2014)    |
| RS2   | Replaced “apparatus” with “water tender”.                     | Replaced for consistency. (2014)    |
| RS2   | Replaced “that” with “correct”.                               | Replaced to clarify pronoun. (2014) |

#### Cross Reference

| Course Plan                                                                                         | Skill Sheets | Task Book                                                                                   |
|-----------------------------------------------------------------------------------------------------|--------------|---------------------------------------------------------------------------------------------|
| FADO 1F: Water Tender Operations (2024) <ul style="list-style-type: none"><li>• Topic 3-5</li></ul> | N/A          | Water Tender Driver/Operator (2024) <ul style="list-style-type: none"><li>• JPR 4</li></ul> |

## 17-4: Establish a Water Shuttle Dump Site

### Authority

1. NFPA 1010: Standard on Professional Qualifications for Firefighters (2024)
  - Paragraph 17.4.3

### Job Performance Requirement

Establish a water shuttle dump site, given one or more water tenders, two or more portable water tanks, low-level strainers, hard suction hose, fire hose, and a fire apparatus equipped with a fire pump, so that the tank being drafted from is kept full at all times, the tank being dumped into is emptied first, and the water is transferred from one tank to the next.

### Requisite Knowledge

1. Describe local procedures for establishing a water shuttle dump site
2. Describe principles of water transfer between multiple portable water tanks

### Requisite Skills

1. Deploy portable water tanks
2. Connect and operate water transfer equipment
3. Connect a strainer and suction hose to the fire pump

### Content Modification

| Block | Modification                                                  | Justification                    |
|-------|---------------------------------------------------------------|----------------------------------|
| JPR   | Added “one or more water tenders”.                            | Required to complete JPR. (2014) |
| JPR   | Replaced “water transfer equipment” with “hard suction hose”. | None given. (2014)               |

### Cross Reference

| Course Plan                                                                                         | Skill Sheets | Task Book                                                                                   |
|-----------------------------------------------------------------------------------------------------|--------------|---------------------------------------------------------------------------------------------|
| FADO 1F: Water Tender Operations (2024) <ul style="list-style-type: none"><li>• Topic 3-4</li></ul> | N/A          | Water Tender Driver/Operator (2024) <ul style="list-style-type: none"><li>• JPR 5</li></ul> |

## 17-5: Filling a Pumping Apparatus

### Authority

1. Office of the State Fire Marshal

### Job Performance Requirement

Fill a pumping apparatus, given a water tender, a pumping apparatus, tools and equipment, and one or more supply hoses, so that fire flow is managed to meet incident demand.

### Requisite Knowledge

1. Describe communication requirements between water tender operator and other resources
2. Describe how to correctly position a water tender at a pumping apparatus
3. Describe how to locate the water tank discharges on the water tender
4. Describe how to pump water to the pumping apparatus
5. Describe water tender operations at a pumping apparatus

### Requisite Skills

1. Determine correct position for water tender
2. Maneuver water tender into correct position
3. Pump to an apparatus

### Content Modification

| Block | Modification                        | Justification                                                                                    |
|-------|-------------------------------------|--------------------------------------------------------------------------------------------------|
| CTS   | Added a new certification standard. | This topic is not covered in NFPA and students need operations-level skills in this area. (2024) |

### Cross Reference

| Course Plan                                                                                         | Skill Sheets | Task Book                                                                                   |
|-----------------------------------------------------------------------------------------------------|--------------|---------------------------------------------------------------------------------------------|
| FADO 1F: Water Tender Operations (2024) <ul style="list-style-type: none"><li>• Topic 3-3</li></ul> | N/A          | Water Tender Driver/Operator (2024) <ul style="list-style-type: none"><li>• JPR 6</li></ul> |