DEPARTMENT OF FORESTRY AND FIRE PROTECTION
OFFICE OF THE STATE FIRE MARSHAL
STATE FIRE TRAINING
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Date: April 10, 2026

To: Statewide Training and Education Advisory Committee
State Board of Fire Services

From: Caryn Petty, Cadre Lead, Deputy State Fire Marshal III (Specialist), SFT, OSFM
Katy Luetke Porter, Deputy State Fire Marshal
Allison L. Shaw, Editor, Sacramento State

SUBJECT/AGENDA ACTION ITEM:
Fire Apparatus Driver/Operator (2024)

Recommended Actions:
First read of the updated Fire Apparatus Driver/Operator (2024) curriculum.

Background Information:
SFT updated the Fire Apparatus Driver/Operator (2024) curriculum in alignment with National Fire Protection Association (NFPA) 1010: Standard on Professional Qualifications for Firefighters (2024). This curriculum was developed to ensure effective fire apparatus roles and responsibilities in California fire agencies.

Analysis/Summary of Issue:

Fire Apparatus Driver/Operator (2024) Curriculum Launch
SFT will release the Fire Apparatus Driver/Operator (2024) curriculum on October 1, 2026.

Retirement of Fire Apparatus Driver/Operator (2017) Curriculum
Effective December 31, 2026, SFT will retire Fire Apparatus Driver/Operator (2017). On January 1, 2027, SFT will remove the curriculum from the SFT course catalog, and it will no longer be available.

Candidates pursuing certification of any apparatus in the Fire Apparatus Driver/Operator certification track using a 2017 task book must complete and submit their Certification Task Book (2017) postmarked on or before December 31, 2027.

Candidates who do not meet this deadline will be required to meet the Fire Apparatus Driver/Operators (2024) certification requirements using the applicable (2024) Certification Task Book.

CTS Guide

- NFPA moved the content from NFPA 1002: Standard for Fire Apparatus Driver/Operator Professional Qualifications (2017) to NFPA 1010: Standard on Professional Qualifications for Firefighters (2024)
- NFPA changed apparatus terminology in NFPA 1010. OSFM will continue to use the following: Fire Apparatus, Aerial Apparatus, Pumping Apparatus, Tillered Apparatus, Water Tender, and Wildland Fire Apparatus.
- NFPA removed the following standards in the transition from 1002 (2017) to 1010 (2024):
    - 4.4.2: Receive a Telephone Call
    - 4.4.4: Activate Emergency Procedures
- NFPA added the following standards in the transition from 1002 (2017) to 1010 (2024):
    - 15.2.1: Initiate the Response to a Reported Emergency
    - 15.2.2: Transmit and Receive Communications
    - 17.3.1: Initiate the Response to a Reported Emergency
    - 17.3.2: Transmit and Receive Communications
- OSFM added the following standards:
    - 7-5: Filling a Pumping Apparatus
- NFPA renumbered, updated, or modified all other standards in ways that do not significantly impact teaching or performance requirements

Course Plans – Universal (applies to all)

- Instructor Level
    - Changed from “One primary instructor and sufficient assistant instructors to meet skills ratio requirements” to “SFT [specific apparatus] Driver/Operator Registered Instructor”.
    - Application activities will now require one apparatus-specific Registered Instructor for every six (6) students.
- Instructor/Student Ratio
    - Changed ratio for application from 1:10 to 1:6. This ensures enough time to accommodate varied student skills sets. Many students are coming in with less driving experience.

Course Plan 1C – Aerial Apparatus Operations

- Course Prerequisites
    - Added FADO 1B: Pumping Apparatus Operations because increasingly aerial apparatus now carry water and all operators need to come in with pumping apparatus knowledge.
    - Changed “Minimum four hours driving an aerial apparatus” to “Experience driving an aerial apparatus (recommended)”. This doesn’t exist for any

other apparatus type and instructor should assume some (or all) students have no prior experience.

- Instructor Level
  - Changed from “One primary instructor and sufficient assistant instructors to meet skills ratio requirements” to “SFT Registered Instructor for both Tillered Apparatus Driver/Operator and Aerial Apparatus Driver/Operator”. Instructors need to be registered to both positions.
- Facilities, Equipment, and Personnel
  - Removed “Qualified assistant (as needed). SFT no longer uses Assistant Instructors.
  - Added “If the aerial apparatus includes a tiller, the tiller position must be operated by a Skills Coach who has already completed FADO 1C (Aerial) and 1D (Tiller), not a student in this course”. There is no requirement that students complete FADO 1D: Tillered Apparatus Operations prior to 1C, therefore additional tiller drivers are needed if the aerial used in class includes a tiller.

Course Plan 1D – Tillered Apparatus Operations

- Course Prerequisites
  - Added FADO 1B: Pumping Apparatus Operations because increasingly aerial apparatus now carry water and all operators need to come in with pumping apparatus knowledge.
  - Removed FADO 1C: Aerial Apparatus Operations because some agencies start their drivers in the tiller position without learning the aerial position first.
  - Added “Experience driving a tillered aerial apparatus (recommended)” to mirror update to FADO 1B: Aerial Apparatus Operations.
- Instructor Level
  - Changed from “One primary instructor and sufficient assistant instructors to meet skills ratio requirements” to “SFT Registered Instructor for both Tillered Apparatus Driver/Operator and Aerial Apparatus Driver/Operator”. Instructors need to be registered to both positions.
- Facilities, Equipment, and Personnel
  - Added “Skills Coaches who have already completed FADO 1C (Aerial) and 1D (Tiller) to support application activities (Based on class size, apparatus numbers, and student experience levels. Skills Coaches are in addition to and may not replace Registered Instructors.)

Course Plan 1E – Wildland Fire Apparatus Operations

- Course Prerequisites
  - Added FADO 1A: Fire Apparatus Driver/Operator (2017 or newer) and FADO 1B: Pumping Apparatus Operations (2017 or newer). These were already required but were missing on nth course plan Course Details.
- Hours (Total)
  - Changed from 24 to 27 in Course Details. This is not a change; it’s a correction to match the existing approved Timetable.

Course Plan 1F – Water Tender Operations

- New Content
  - Added new Topic 3-3: Filling a Pumping Apparatus. This topic is not covered in NFPA and students need operations-level skills in this area.
- Hours (Total)
  - Changed course time from 27 to 32 hours to accommodate new content and expand student practice/application time.

Certification Task Book – Universal (applies to all)

- Prerequisites
  - Pumping Apparatus Driver/Operator certification is now a prerequisite for all other apparatus certifications
- Experience
  - Added "a minimum of one year full-time paid or two years' volunteer or part-time paid experience in a recognized California fire agency with the primary responsibility as a Pumping Apparatus Driver/Operator" to all apparatus certifications
  - Added "a minimum of one year full-time paid or two years' volunteer or part-time paid experience in a recognized California fire agency with the primary responsibility as a driver/operator on the apparatus for which the candidate seeks certification" to all apparatus certifications
- Position
  - Removed "Appointed to the rank or position of Fire Apparatus Driver/Operator (performing in an acting capacity does not qualify)" from all apparatus certifications
  - Added "The position requirement is met when the applicant fulfills the role of the specific duties as defined by the fire chief" to all apparatus certifications
- Signature Verification
  - Added a line for "Initials" and "Course #" to each signature block. This is a permanent update to the template.
- Job Performance Requirements
  - Removed all Fire Apparatus JPRs from aerial, tiller, wildland, and water tender task books. Now students must complete the Pumping Apparatus Driver/Operator Certification Task Book **and** the apparatus-specific task book to obtain certification. FADO 1A and FADO 1B are required courses for all certifications.

Certification Task Book – Pumping Apparatus

- JPR 3 from the 2017 task book combined two different standards (4.3.1 and 4.3.6) into one task. Those are listed separately in the 2024 task book: 11.3.1 is JPR 3 and 11.3.6 is JPR 8.
- JPR 11 in the 2024 task book (Respond on an apparatus to an emergency scene…) did not appear in the 2017 task book. It has been added to meet NFPA standards.

- JPR 12 in the 2024 task book (Establish and operate in work areas at emergency and nonemergency scenes…) did not appear in the 2017 task book. It has been added to meet NFPA standards.
- JPR 13 in the 2024 task book (Connect a pumping apparatus to a water supply as a member of a team...) did not appear in the 2017 task book. It has been added to meet NFPA standards.

Certification Task Book – Aerial Apparatus

- Education
  - Added FADO 1B: Pumping Apparatus as a requirement for Aerial Apparatus.
- Removed all Fire Apparatus JPRs.

Certification Task Book – Tillered Apparatus

- Education
  - Added FADO 1B: Pumping Apparatus as a requirement for Tillered Apparatus certification
  - Removed FADO 1C: Aerial Apparatus Operations as a requirement for Tillered Apparatus certification
- Removed all Fire Apparatus JPRs.

Certification Task Book – Wildland Fire Apparatus

- Removed all Fire Apparatus JPRs.

Certification Task Book – Water Tender

- Removed all Fire Apparatus JPRs.
- Added JPR 6 (Fill a pumping apparatus).

Fire Apparatus Driver/Operator (2017) Instructors

SFT Registered Instructors authorized to teach any Fire Apparatus Driver/Operator (2017) course are encouraged to attend the appropriate 2024 course and must complete the Fire Apparatus Driver/Operator Instructor Update webform, available through SFT, to obtain authorization to teach the corresponding 2024 course.

In Process Instructor Candidates

Candidates actively pursuing instructor registration for any Fire Apparatus Driver/Operator (2017) course must submit all documentation postmarked on or before December 31, 2027. Anyone who applies to teach a Fire Apparatus Driver/Operator course on or after January 1, 2028, will be required to meet the Fire Apparatus Driver/Operator (2024) requirements.

New Instructor Registration
New instructor candidates shall meet the following requirements:

Category	Requirement
Instructor Registration	Be an OSFM Registered Instructor
Certification	OSFM Fire Fighter 1 **and** OSFM Fire Apparatus Driver/Operator (2014) or newer, apparatus-type specific
Education	All candidates: • FADO 1A: Fire Apparatus Driver/Operator (2017 or newer) • FADO 1B: Pumping Apparatus Operations (2017 or newer) Additional requirements by apparatus: • FADO 1C: Aerial Apparatus Driver/Operator (2017 or newer) • FADO 1D: Tillered Apparatus Driver/Operator (2017 or newer) • FADO 1E: Wildland Fire Apparatus Driver/Operator (2017 or newer) • FADO 1F: Water Tender Driver/Operator (2017 or newer)
Experience	All candidates: • Held the rank of Engineer for a minimum of three (3) years' full-time paid or six (6) years' volunteer or part-time paid within a recognized California fire agency o For departments that do not use the Engineer rank, applicants who have operated fire apparatus as their primary responsibility for a minimum of three (3) years' full-time paid or six (6) years' volunteer or part-time paid within a recognized California fire agency qualify Additional requirements for FADO 1B, 1C, 1D, 1E, and 1F: • Have a minimum of three (3) years' full-time paid or six (6) years' volunteer or part-time paid experience operating the course-specific apparatus
Chief's Letter	Provide a letter signed by their Fire Chief or authorized designee that verifies qualification to deliver Fire Apparatus Driver/Operator curriculum.
Application	Submit an SFT Instructor Registration Application
Fee	Pay the registration fee

Fire Apparatus Driver/Operator (2024) Implementation Plan

Issued: Month ##, 2026

OVERVIEW

This document is intended to provide information for all State Fire Training (SFT) stakeholders on the updated Fire Apparatus Driver/Operator (2024) curriculum requirements. Stakeholders are encouraged to study this information carefully and seek clarification from SFT if questions arise.

The Fire Apparatus Driver/Operator (2024) curriculum is presented as a Certification Fire Service Training and Education System (CFSTES) series. SFT updated the certification training standard (CTS) guide, course plans, and certification task books based on the current National Fire Protection Association (NFPA) standards:

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

IMPLEMENTATION

Candidates entering the SFT system should enroll in the 2024 Fire Apparatus Driver/Operator courses and comply with the most current Fire Apparatus Driver/Operator requirements.

New Curriculum	Hours
FADO 1A: Fire Apparatus Driver/Operator (2024)	**40 hours**
FADO 1B: Pumping Apparatus Operations (2024)	**40 hours**
FADO 1C: Aerial Apparatus Operations (2024)	**40 hours**
FADO 1D: Tillered Apparatus Operations (2024)	**40 hours**
FADO 1E: Wildland Fire Apparatus Operations (2024)	**27 hours**
FADO 1F: Water Tender Operations (2024)	**32 hours**

Fire Apparatus Driver/Operator (2024) Curriculum ..... October 1, 2026

Retirement of Fire Apparatus Driver/Operator (2017) Curriculum ..... December 31, 2026
Effective December 31, 2027, SFT will retire Fire Apparatus Driver/Operator (2017). On January 1, 2028, SFT will remove the curriculum from the SFT course catalog, and it will no longer be available.

Candidates pursuing certification of any apparatus in the Fire Apparatus Driver/Operator certification track using a 2017 task book must complete and submit their Certification Task Book (2017) postmarked on or before December 31, 2027.

Candidates who do not meet this deadline will be required to meet the Fire Apparatus Driver/Operators (2024) certification requirements using the applicable (2024) Certification Task Book.

INSTRUCTOR REQUIREMENTS

Fire Apparatus Driver/Operator (2024) Instructor Registration ..... October 1, 2026
Instructors for the Fire Apparatus Driver/Operator (2024) curriculum must meet the SFT requirements for Registered Instructor. Instructors must have appropriate education and practical experience relating to the specific course content.

Fire Apparatus Driver/Operator (2017) Instructors
SFT Registered Instructors authorized to teach any Fire Apparatus Driver/Operator (2017) course are encouraged to attend the appropriate 2024 course and must complete the Fire Apparatus Driver/Operator Instructor Update webform, available through SFT, to obtain authorization to teach the corresponding 2024 course.

In Process Instructor Candidates
Candidates actively pursuing instructor registration for any Fire Apparatus Driver/Operator (2017) course must submit all documentation postmarked on or before December 31, 2027. Anyone who applies to teach a Fire Apparatus Driver/Operator course on or after January 1, 2028, will be required to meet the Fire Apparatus Driver/Operator (2024) requirements.

New Instructor Registration
New instructor candidates shall meet the following requirements:

Category	Requirement
Instructor Registration	Be an OSFM Registered Instructor
Certification	OSFM Fire Fighter 1 **and** OSFM Fire Apparatus Driver/Operator (2014) or newer, apparatus-type specific
Education	All candidates: • FADO 1A: Fire Apparatus Driver/Operator (2017 or newer) • FADO 1B: Pumping Apparatus Operations (2017 or newer) Additional requirements by apparatus: • FADO 1C: Aerial Apparatus Driver/Operator (2017 or newer) • FADO 1D: Tillered Apparatus Driver/Operator (2017 or newer) • FADO 1E: Wildland Fire Apparatus Driver/Operator (2017 or newer) • FADO 1F: Water Tender Driver/Operator (2017 or newer)
Experience	All candidates: • Held the rank of Engineer for a minimum of three (3) years' full-time paid or six (6) years' volunteer or part-time paid within a recognized California fire agency

	○ For departments that do not use the Engineer rank, applicants who have operated fire apparatus as their primary responsibility for a minimum of three (3) years' full-time paid or six (6) years' volunteer or part-time paid within a recognized California fire agency qualify Additional requirements for FADO 1B, 1C, 1D, 1E, and 1F: • Have a minimum of three (3) years' full-time paid or six (6) years' volunteer or part-time paid experience operating the course-specific apparatus
Chief's Letter	Provide a letter signed by their Fire Chief or authorized designee that verifies qualification to deliver Fire Apparatus Driver/Operator (2024) curriculum.
Application	Submit an SFT Instructor Registration Application
Fee	Pay the registration fee

POTENTIAL AGENCY IMPACTS

Fire agencies desiring to use the Fire Apparatus Driver/Operator (2024) curriculum as a requirement for their recruitment/promotion activities need to review the Fire Apparatus Driver/Operator (2024) curriculum requirements to be sure that all agency training needs are met. After review, fire agencies should update their job specifications and recruitment documentation to reflect these new courses and certification requirements.

Accredited Regional Training Programs (ARTP), Accredited Local Academies (ALA), community colleges, and all other local delivery venues need to review the curriculum and seek approval from their curriculum committee / program sponsor, as appropriate. ARTPs should review the new Fire Apparatus Driver/Operator (2024) curriculum and discuss potential impacts with their advisory committees.

Fire Apparatus Driver/Operator

(NFPA 1010: Standard on Professional Qualifications for Firefighters)

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: Month Year

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).

Cover photo courtesy of Name, Job Title, Organization.

Published by State Fire Training.

Table of Contents

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CAL FIRE

- Joe Tyler, Director
- Daniel Berlant, State Fire Marshal
- Chris Fowler, Chief of State Fire Training
- Mike Richwine, Chair, Statewide Training and Education Advisory Committee (STEAC); State Fire Marshal (Retired), CAL FIRE/Office of the State Fire Marshal

Cadre – 2024 Update

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- Brian White, Battalion Chief, CAL FIRE

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) • Topic 2-1	N/A	Pumping Apparatus Driver/Operator (2024) • JPR 1

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) • Topic 2-2	N/A	Pumping Apparatus Driver/Operator (2024) • JPR 2

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) • Topic 3-1	N/A	Pumping Apparatus Driver/Operator (2024) • JPR 3

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) • Topic 3-3	N/A	Pumping Apparatus Driver/Operator (2024) • JPR 4

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) • Topic 3-4	N/A	Pumping Apparatus Driver/Operator (2024) • JPR 5

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) • Topic 3-4 (RK 3) • Topic 3-5 (RK1, RK2, RK4, RK5, RS1, RS2)	N/A	Pumping Apparatus Driver/Operator (2024) • JPR 6

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) • Topic 3-4 (RK3) • Topic 3-6 (RK1, RK2, RK4, RK5, RS1, RS2)	N/A	Pumping Apparatus Driver/Operator (2024) • JPR 7

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)

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) • Topic 3-1	N/A	Pumping Apparatus Driver/Operator (2024) • JPR 8

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) • Topic 3-7	N/A	Pumping Apparatus Driver/Operator (2024) • JPR 9

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) • Topic 2-1	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) • Topic 3-1	N/A	Pumping Apparatus Driver/Operator (2024) • JPR 10

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) • Topic 4-1	N/A	Pumping Apparatus Driver/Operator (2024) • JPR 11

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) • Topic 4-2	N/A	Pumping Apparatus Driver/Operator (2024) • JPR 12

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) • Topic 4-3	N/A	Pumping Apparatus Driver/Operator (2024) • JPR 13

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)

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) • Topic 4-4	N/A	Pumping Apparatus Driver/Operator (2024) • JPR 14 (hand line / internal tank) • JPR 15 (master stream / internal tank) • JPR 16 (hand line / pressurized source) • JPR 17 (master stream / pressurized source) • JPR 18 (hand line / static source) • JPR 19 (master stream / static source) • JPR 20 (hand line / internal to external transfer) • JPR 21 (master stream / internal to external transfer)

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) • Topic 4-4 (RK2, RK3, RK4, RK5, RK6) • Topic 4-5 (RK1, RS1, RS2, RS3, RS4, RS5, RS6, RS7, RS8, RS9)	N/A	Pumping Apparatus Driver/Operator (2024) • JPR 22

6-6: Produce a Foam Fire Steam

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) • Topic 4-6	N/A	Pumping Apparatus Driver/Operator (2024) • JPR 23

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) • Topic 4-7	N/A	Pumping Apparatus Driver/Operator (2024) • JPR 24

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) • Topic 2-1	N/A	Aerial Apparatus Driver/Operator (2024) • JPR 1

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) • Topic 3-1	N/A	Aerial Apparatus Driver/Operator (2024) • JPR 2

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) • Topic 3-2	N/A	Aerial Apparatus Driver/Operator (2024) • JPR 3

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)

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) • Topic 3-2 (RK10) • Topic 3-3 (everything else)	N/A	Aerial Apparatus Driver/Operator (2024) • JPR 4

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)

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) • Topic 3-3 (RK2, RK4, RK5, RK6, RK8, RK11, RK12, RK15) • Topic 3-4 (RK1, RK3, RK7, RK9, RK10, RK13, RK14, RS1, RS2)	N/A	Aerial Apparatus Driver/Operator (2024) • JPR 5

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) • Topic 3-5	N/A	Aerial Apparatus Driver/Operator (2024) • JPR 6

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) • Topic 2-1	N/A	Tillered Apparatus Driver/Operator (2024) • JPR 1

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.

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) • Topic 3-1 (RK4, RK5, RK6, RK7, RS3, RS4) • Topic 3-2 (RK1, RK2, RK3, RS1, RS2)	N/A	Tillered Apparatus Driver/Operator (2024) • JPR 2

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.

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) • Topic 3-1 (RK3, RS2, RS3, RS4, RS5) • Topic 3-2 (RK1, RK2, RK4, RS1)	N/A	Tillered Apparatus Driver/Operator (2024) • JPR 3

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) • Topic 3-3	N/A	Tillered Apparatus Driver/Operator (2024) • JPR 4

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) • Topic 2-1	N/A	Wildland Fire Apparatus Driver/Operator (2024) • JPR 1

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)

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) • Topic 3-1	N/A	Wildland Fire Apparatus Driver/Operator (2024) • JPR 2

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) • Topic 3-2	N/A	Wildland Fire Apparatus Driver/Operator (2024) • JPR 3 (tank) • JPR 4 (pressurized source) • JPR 5 (static source)

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) • Topic 4-5	N/A	Wildland Fire Apparatus Driver/Operator (2024) • JPR 6

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) • Topic 4-6	N/A	Wildland Fire Apparatus Driver/Operator (2024) • JPR 7

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) • Topic 2-1	N/A	Water Tender Driver/Operator (2024) • JPR 1

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) • Topic 3-1	N/A	Water Tender Driver/Operator (2024) • JPR 2

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) • Topic 3-2	N/A	Water Tender Driver/Operator (2024) • JPR 3

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) • Topic 3-5	N/A	Water Tender Driver/Operator (2024) • JPR 4

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) • Topic 3-4	N/A	Water Tender Driver/Operator (2024) • JPR 5

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) • Topic 3-3	N/A	Water Tender Driver/Operator (2024) • JPR 6

Fire Apparatus Driver/Operator (2024)

Course Plan

Course Details

Certification: Fire Apparatus Driver/Operator (all apparatus types)

CTS Guide: Fire Apparatus Driver/Operator (2024)

Description: This course provides the knowledge and skills needed to perform preventive maintenance on and drive or operate a fire apparatus. Topics include routine tests, inspections, and servicing functions; operating, backing, maneuvering, and turning a fire apparatus under a variety of conditions; and operating all fixed systems and equipment on a fire apparatus. Fulfills the requirements for a Class C driver's license fire fighter endorsement.

Designed For: Personnel who drive and operate a fire apparatus

Course Prerequisites: A valid driver's license

Standard: Successful completion of all skills and activities

Achieve a minimum score of 80% on a cognitive summative test

Hours (Total): 40 hours (17.5 lecture / 20.5 application / 2 testing)

Maximum Class Size: 30

Instructor Level: SFT Fire Apparatus Driver/Operator Registered Instructor

Instructor/Student Ratio: 1:30 (lecture) / 1:6 (application)

Restrictions: All instructors counted toward student ratios, including application components, must be SFT Fire Apparatus Driver/Operator Registered Instructors

Sufficient fire apparatus and space to accommodate classroom and skills training

SFT Designation: CFSTES

Table of Contents

Required Resources

Instructor Resources

To teach this course, instructors need:

- One of the following textbooks
  - *Fire Apparatus Driver/Operator: Pump, Aerial, Tiller, and Mobile Water Supply* (Jones & Bartlett, current edition)
  - *Pumping and Aerial Apparatus Driver/Operator Handbook* (IFSTA, current edition)
- California Vehicle Code (current edition)
- Maintenance and inspection forms
- Manufacturer's specifications and requirements
- Applicable state and local laws

Online Instructor Resources

The following instructor resources are available online at https://osfm.fire.ca.gov/what-we-do/state-fire-training/professional-certifications:

- Fire Apparatus Driver/Operator required activities
  - Activity 3-3(a): Alley Dock
  - Activity 3-3(b): Station Parking
  - Activity 3-4: Serpentine
  - Activity 3-5: Confined Space Turnaround
  - Activity 3-6: Diminishing Clearance

Student Resources

To participate in this course, students need:

- Textbook selected by instructor
- California Vehicle Code (current edition)
- Personal protective equipment (minimum = long pants, wildland jacket, gloves, helmet, footwear with toe protection)

Facilities, Equipment, and Personnel

The following facilities, equipment, or personnel are required to deliver this course:

- Standard learning environment or facility
  - Writing board or paper conference pads
  - Markers, erasers
  - Computer or tablet with presentation or other viewing software
  - Amplification devices
  - Projector and screen
- Sufficient fire apparatus to accommodate the students in the class

    - Recommend at least 30 minutes of drive time per student per topic for Topics 3-3 through 3-6.
- Adequate space to accommodate the required skills
- Tools and equipment for inspection and testing
- Tape measure
- Traffic cones
- Delineators
- Left front tire marker
- Optional straight line marker
- Vertical obstacle
- Spotters
- Personal protective equipment (students)

Timetable

Segment	Lecture	Application	Unit Total
Unit 1: Introduction			
Topic 1-1: Orientation and Administration	0.5	0.0	
Topic 1-2: Fire Apparatus Driver/Operator Certification	0.5	0.0	
Unit 1 Totals	**1.0**	**0.0**	**1.0**
Unit 2: Preventive Maintenance			
Topic 2-1: Perform Visual and Operational Checks	5.0	1.0	
Topic 2-2: Document Visual and Operational Checks	0.5	0.5	
Unit 2 Totals	**5.5**	**1.5**	**7.0**
Unit 3: Operating/Driving			
Topic 3-1: Operate a Fire Apparatus	6.0	0.5	
Topic 3-2: Operate a Vehicle Using Defensive Driving Techniques	3.0	0.5	
Topic 3-3: Back a Vehicle from a Roadway into a Restricted Space	0.25	*	
Topic 3-4: Maneuver a Vehicle around Obstructions	0.25	*	
Topic 3-5: Turn a Fire Apparatus 180 Degrees within a Confined Space	0.25	*	
Topic 3-6: Maneuver a Fire Apparatus in Areas with Restricted Clearances	0.25	*	
Topic 3-7: Operate All Fixed Systems and Equipment on a Fire Apparatus	1.0	0.0	
Unit 3 Totals	**11.0**	**19.0**	**30.0**
Summative Assessment			
Determined by AHJ or educational institution	**0.0**	**2.0**	**2.0**
Skills Practice (Lab / Sets and Reps)			
Determined by AHJ or educational institution	**0.0**	**0.0**	**0.0**
Course Totals	**17.5**	**22.5**	**40.0**

* Individual application time determined by instructor for a total of 18 hours for Unit 3. Recommend at least 30 minutes of drive time per student across Topics 3-3 through 3-6.

Timetable Key

1. The Timetable documents the amount of time required to deliver the content included in the course plan.

2. Time is documented using the quarter system:
   - 15 min. = 0.25 hours
   - 30 min. = 0.50 hours
   - 45 min. = 0.75 hours
   - 60 min. = 1.00 hours

3. The Course Totals do not reflect time for lunch (1 hour) or breaks (10 minutes per each 50 minutes of instruction or assessment). It is the instructor's responsibility to add this time based on the course delivery schedule.

4. Application (activities, skills exercises, and formative testing) time will vary depending on the number of students enrolled. The Application time documented is based on the maximum class size identified in the Course Details section.

5. Summative Assessments are determined and scheduled by the authority having jurisdiction. These are not the written or psychomotor State Fire Training certification exams. These are in-class assessments to evaluate student progress and calculate course grades.

Unit 1: Introduction

Topic 1-1: Orientation and Administration

Terminal Learning Objective

At the end of this topic a student will be able to identify facility and classroom requirements and identify course objectives, events, requirements, assignments, activities, skills exercises, resources, evaluation methods, and participation requirements in the course syllabus.

Enabling Learning Objectives

1. Identify facility requirements
    - Restroom locations
    - Food locations
    - Smoking locations
    - Emergency procedures
2. Identify classroom requirements
    - Start and end times
    - Breaks
    - Electronic device policies
    - Special needs and accommodations
    - Other requirements as applicable
3. Review course syllabus
    - Course objectives
    - Calendar of events
    - Course requirements
    - Student evaluation process
    - Assignments
    - Activities and skills exercises
    - Required student resources
    - Class participation requirements

Discussion Questions

1. Determined by instructor

Application

1. Determined by instructor

Instructor Notes

1. None

Topic 1-2: Fire Apparatus Driver/Operator Certification

Terminal Learning Objective

At the end of this topic a student will be able to identify the requirements for each Fire Apparatus Driver/Operator certification and be able to describe the certification task book and examination process.

Enabling Learning Objectives

1. Identify different levels of certification in the Fire Apparatus Driver/Operator certification track
   - Pumping Apparatus
   - Aerial Apparatus
   - Tillered Apparatus
   - Wildland Fire Apparatus
   - Water Tender
2. Identify the prerequisites for certification
   - One of the following:
     - OSFM Fire Fighter 1 certification **or**
     - Appointment to the rank of Officer (Lieutenant or higher) or CAL FIRE rank of Fire Apparatus Engineer (Performing in an "acting" capacity does not fulfill this requirement.) **and**
   - Valid Class C Firefighter Endorsed **or** Commercial A **or** Commercial B driver's license (per California Vehicle Code, Section 12804.11)
3. Identify the courses required for certification
   - Pumping Apparatus
     - FADO 1A: Fire Apparatus Driver/Operator (2017 or newer)
     - FADO 1B: Pumping Apparatus Operations (2017 or newer)
   - Aerial Apparatus
     - FADO 1A: Fire Apparatus Driver/Operator (2017 or newer)
     - FADO 1B: Pumping Apparatus Operations (2017 or newer)
     - FADO 1C: Aerial Apparatus Operations (2017 or newer)
   - Tillered Apparatus
     - FADO 1A: Fire Apparatus Driver/Operator (2017 or newer)
     - FADO 1B: Pumping Apparatus Operations (2017 or newer)
     - FADO 1D: Tillered Apparatus Operations (2017 or newer)
   - Wildland Fire Apparatus
     - FADO 1A: Fire Apparatus Driver/Operator (2017 or newer)
     - FADO 1B: Pumping Apparatus Operations (2017 or newer)
     - FADO 1E: Wildland Fire Apparatus Operations (2017 or newer)
   - Water Tender
     - FADO 1A: Fire Apparatus Driver/Operator (2017 or newer)
     - FADO 1B: Pumping Apparatus Operations (2017 or newer)
     - FADO 1F: Water Tender Operations (2017 or newer)
4. Identify the exams required for certification
   - No exams outside of class formative and summative testing

5. Identify the task book requirements for certification
    - Pumping Apparatus Certification Task Book (2024)
    - Aerial Apparatus Certification Task Book (2024)
    - Tillered Apparatus Certification Task Book (2024)
    - Wildland Fire Apparatus Certification Task Book (2024)
    - Water Tender Certification Task Book (2024)
6. Identify the experience requirements for certification (both required)
    - A minimum of one year full-time paid or two years' volunteer or part-time paid experience in a recognized California fire agency with the primary responsibility as a Pumping Apparatus Driver/Operator **and**
    - A minimum of one year full-time paid or two years' volunteer or part-time paid experience in a recognized California fire agency with the primary responsibility as a driver/operator on the apparatus for which the candidate seeks certification
7. Identify the position requirements for certification
    - The position requirement is met when the applicant fulfills the role of the specific duties as defined by the fire chief
8. Describe the certification task book process
9. Describe the certification testing process
    - Not applicable

Discussion Questions

1. Determined by instructor

Application

1. Determined by instructor

Instructor Notes

1. None

Unit 2: Preventive Maintenance

Topic 2-1: Perform Visual and Operational Checks

Terminal Learning Objective

At the end of this topic a student, given a fire apparatus, tools and equipment, manufacturer's specifications and requirements, and AHJ policies and procedures, will be able to perform visual and operational checks on the systems and components of a fire apparatus to verify their operational status.

Enabling Learning Objectives

1. Describe fire apparatus systems and components
   - Braking system
   - Coolant system
   - Electrical system
   - Exhaust system
   - Fuel systems
   - Steering and suspension systems
   - Batteries
   - Belts
   - Body, frame, and cab
   - Fluids
   - Lighting
   - Oil and lubrication
   - Tires
   - Tools, appliances, and equipment
2. Identify types of electric fire apparatus
   - Parallel-electric drive train
     - Operates independently in either all-electric (normal operational situations) or internal combustion engine (backup power in extended emergency operations) mode
   - Range-extended electric vehicles
     - Operates on battery power with a generator or engine to power batteries if their state of charge drops below specified threshold
3. Describe systems and components associated with an electric/hybrid fire apparatus
   - Charging station
   - Charing port
   - Electric drive line
   - Integrated onboard batteries
   - Internal combustion engine
   - High-voltage components
   - Electro-mechanical infinitely variable transmission (EMIVT)
4. Identify manufacturer specifications and requirements
5. Identify AHJ policies and procedures

6. Describe how to use tools and equipment for preventative maintenance
7. Identify system problems and how to correct them
8. Identify out-of-service criteria
9. Use tools and equipment
10. Inspect fire apparatus
11. Recognize system problems and out-of-service criteria
12. Correct any deficiency noted according to policies and procedures and/or manufacturer specifications and requirements

Discussion Questions

1. Why is it critical to inspect fire apparatus regularly and consistently?
2. Can you describe a situation when a fire apparatus failed mechanically?
   - Why did this failure occur?
   - What actions did you take in response?
3. What is your jurisdiction's fire apparatus inspection procedure?
4. What are the differences between a parallel-electric drive train and a range-extended electric vehicle backup power?

Application

1. Given fire apparatus and inspection forms, divide students into small groups and have each group perform a fire apparatus inspection. Students will present their findings after the activity in Topic 2-2.

Instructor Notes

1. Bring materials for the Application.
2. Topics 2-1 and 2-2 can be taught concurrently.

CTS Guide Reference: CTS 1-1

Topic 2-2: Document Visual and Operational Checks

Terminal Learning Objective

At the end of this topic a student, given maintenance and inspection forms, will be able to document routine tests, inspections, and servicing functions so that all items are checked for operation and deficiencies are reported.

Enabling Learning Objectives

1. Identify AHJ requirements for documenting performed maintenance
2. Describe the importance of keeping accurate records
3. Use tools and equipment
4. Complete related AHJ forms

Discussion Questions

1. What are your jurisdiction's requirements for documenting performed maintenance or requesting repairs?
2. At what intervals does your jurisdiction require you to document your inspection?
3. What are the consequences of falsifying inspection documents?

Application

1. Using the fire apparatus inspection completed in Topic 2-1, have each group document their fire apparatus inspection using a form provided by the instructor and present their findings to the class.

Instructor Notes

1. Topics 2-1 and 2-2 can be taught concurrently.

CTS Guide Reference: CTS 1-2

Unit 3: Operations

Topic 3-1: Operate a Fire Apparatus

Terminal Learning Objective

At the end of this topic a student, given a fire apparatus, applicable state and local laws, AHJ policies and procedures, and a predetermined route on a public way that incorporates the maneuvers and features a driver/operator is expected to encounter during normal operations, will be able to operate a fire apparatus so that the apparatus is operated in compliance with all applicable state and local laws and AHJ rules and regulations.

Enabling Learning Objectives

1. Describe the importance of wearing passenger restraint devices to ensure crew safety
2. Identify common causes of fire apparatus accidents
3. Recognize that fire apparatus drivers/operators are responsible for the safe and prudent operation of the apparatus under all conditions
4. Describe proper positioning of a fire apparatus
5. Describe the effects of liquid surge, braking reaction time, and load factors on apparatus control
6. Describe factors that make up total stopping distance
7. Describe load factors
8. Describe the effects of high center of gravity on roll-over potential, general steering reactions, speed, and centrifugal force
9. Identify applicable laws and regulations
    - Driver's license requirements
    - Medical requirements
10. Identify AHJ policies and procedures
11. Describe principles of skid avoidance, night driving, shifting, and gear patterns
12. Describe how to negotiate intersections, railroad crossings, and bridges
13. Identify weight and height limitations for both roads and bridges
14. Describe how to apply automatic braking systems in wet and dry conditions
15. Describe how to identify and operate automotive gauges
16. Identify operational limits of different types of fire apparatus
17. Operate passenger restraint devices
18. Maintain safe following distances
19. Maintain control of the fire apparatus while accelerating, decelerating, and turning, given road, weather, and traffic conditions
20. Operate under adverse environmental or driving surface conditions
21. Use automotive gauges and controls

Discussion Questions

1. Who is responsible for ensuring that passengers wear restraint devices?
2. What is the potential for liability if you are involved in an accident while operating an apparatus?
3. What is the potential for emotional distress if you are involved in an accident while operating an apparatus?

4. What factors do you need to consider when driving an apparatus in inclement weather?
5. Does your jurisdiction have any specific operational limits?
6. How is driving a fire apparatus different from driving your personal vehicle?
7. How would you position a fire apparatus at a _____?

Application

1. Given a fire apparatus accident scenario, have students work in small groups to develop recommendations for preventing a reoccurrence and present their findings to the class.

Instructor Notes

1. Topics 3-1 and 3-2 can be taught concurrently.

CTS Guide Reference: CTS 2-1 and CTS 2-6 (automatic braking systems)

Topic 3-2: Operate a Fire Apparatus Using Defensive Driving Techniques

Terminal Learning Objective

At the end of this topic a student, given a fire apparatus, applicable laws and regulations, AHJ policies and procedures, and an assignment, will be able to operate a fire apparatus during emergency and nonemergency responses using defensive driving techniques so that control of the vehicle is maintained.

Enabling Learning Objectives

1. Review AHJ policies and procedures related to emergency response
2. Describe applicable laws and regulations related to emergency response
   - California Vehicle Code (CVC)
   - Local jurisdictional requirements
3. Describe defensive driving techniques for emergency and nonemergency response
4. Describe the principle of due regard as it applies to emergency incident response
   - Potential public hazards
   - Safe driving behaviors
   - Risk reduction techniques

Discussion Questions

1. What is your jurisdiction's policy on Code 3 driving?
2. What should you consider when approaching an intersection?
3. How does the principle of due regard influence the way you operate a fire apparatus during emergency response?
4. How can exercising due regard prevent accidents and injuries?

Application

1. Given a topic and the California Vehicle Code (CVC), have students work in small groups to identify the applicable CVC section and prepare a brief summary highlighting its important points to present to the class.

Instructor Notes

1. Bring materials for the Application.
2. Topics 3-1 and 3-2 can be taught concurrently.

CTS Guide Reference: CTS 2-6

Topic 3-3: Back a Fire Apparatus from a Roadway into a Restricted Space

Terminal Learning Objective

At the end of this topic a student, given a fire apparatus, a spotter, and a restricted space requiring 90-degree right- and left-hand turns from the roadway (12 feet wide), will be able to back a fire apparatus from a roadway and park in a space with restrictions on both the right and left sides of the apparatus so that the apparatus is parked within the restricted areas without needing to stop and pull forward and without striking obstructions.

Enabling Learning Objectives

1. Identify fire apparatus dimensions
2. Describe turning characteristics
3. Describe spotter signaling
4. Describe principles of safe fire apparatus operation when backing a fire apparatus into a restricted space
5. Use mirrors to judge fire apparatus clearance

Discussion Questions

1. What type of communication do you need with your spotter?
2. What are the dangers of backing your fire apparatus?

Application

1. Activity 3-3(a): Alley Dock or Activity 3-3(b): Station Parking

CTS Guide Reference: CTS 2-2

Topic 3-4: Maneuver a Fire Apparatus around Obstructions

Terminal Learning Objective

At the end of this topic a student, given a fire apparatus, a spotter, and a roadway with obstructions, will be able to maneuver a fire apparatus around obstructions on a roadway so that the vehicle is maneuvered through the obstructions without stopping to change the direction of travel and without striking the obstructions.

Enabling Learning Objectives

1. Identify fire apparatus dimensions
2. Describe turning characteristics
3. Describe the effects of liquid surge
    - Shifting weight
    - Center of gravity
    - Stopping distance
    - Mitigation features (baffles, emergency stability controls)
    - Driving techniques
4. Describe spotter signaling
5. Describe principles of safe fire apparatus operation when maneuvering around obstructions
6. Use mirrors to judge fire apparatus clearance

Discussion Questions

1. How do you determine the pivot point of your fire apparatus?
2. How is liquid surge going to affect apparatus control?

Application

1. Activity 3-4: Serpentine

CTS Guide Reference: CTS 2-3

Topic 3-5: Turn a Fire Apparatus 180 Degrees within a Confined Space

Terminal Learning Objective

At the end of this topic a student, given a fire apparatus, a spotter, and an area in which the fire apparatus cannot perform a U-turn without stopping and backing up, will be able to turn a fire apparatus 180 degrees within a confined space so that the apparatus is turned 180 degrees without striking obstructions within the given space.

Enabling Learning Objectives

1. Identify fire apparatus dimensions
2. Describe turning characteristics
3. Describe spotter signaling
    - More blind spots during this operation
4. Describe principles of safe fire apparatus operation when turning 180 degrees in a confined space
5. Use mirrors to judge fire apparatus clearance

Discussion Questions

1. What factors should a driver/operator evaluate before beginning a 180-degree turn?
2. At what point should spotters be used during turnaround procedures?
3. What are your AHJ's spotter placement policies?

Application

1. Activity 3-5: Confined Space Turnaround

CTS Guide Reference: CTS 2-4

Topic 3-6: Maneuver a Fire Apparatus in Areas with Restricted Clearances

Terminal Learning Objective

At the end of this topic a student, given a fire apparatus and a course with restricted horizontal and vertical clearances, will be able to maneuver a fire apparatus in areas with 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.

Enabling Learning Objectives

1. Identify fire apparatus dimensions
2. Describe turning characteristics
3. Describe spotter signaling
   - Watch for overhangs and awnings
4. Describe principles of safe fire apparatus operation when maneuvering in areas with restricted clearances
5. Use mirrors to judge fire apparatus clearance

Discussion Questions

1. Why is it important to know the dimensions of a fire apparatus?
2. Where do you find the height and width of a fire apparatus?

Application

1. Activity 3-6: Diminishing Clearance

CTS Guide Reference: CTS 2-5

Topic 3-7: Operate All Fixed Systems and Equipment on a Fire Apparatus

Terminal Learning Objective

At the end of this topic a student, given fixed systems and equipment, manufacturer's specifications and requirements, and AHJ policies and procedures, will be able to operate all fixed systems and equipment on a fire apparatus not specifically addressed elsewhere in Chapters 11 through 17 of NFPA 1010 (2024) so that each system or piece of equipment is operated in accordance with the applicable instructions and policies.

Enabling Learning Objectives

1. Identify fixed systems and equipment on a fire apparatus
   - Electric power generators
   - Scene lighting
   - Electrical power distribution equipment
   - Rescue tools
   - Other jurisdictional fixed systems or equipment
2. Describe manufacturer's specifications and requirements
3. Identify AHJ policies and procedures
4. Deploy, energize, and monitor the system or equipment (if applicable)
5. Recognize and correct system problems according to AHJ policies and procedures and/or manufacturer specifications and requirements

Discussion Questions

1. What types of fixed systems and equipment do you have on your fire apparatus?
2. How often should fixed systems or equipment be inspected?
   - To what detail?
3. In which order do you inspect your fixed systems?

Application

1. Determined by instructor

CTS Guide Reference: CTS 2-7

How to Read a Course Plan

A course plan identifies the details, logistics, resources, and training and education content for an individual course. Whenever possible, course content is directly tied to a national or state standard. SFT uses the course plan as the training and education standard for an individual course. Individuals at fire agencies, academies, and community colleges use course plans to obtain their institution's consent to offer course and provide credit for their completion. Instructors use course plans to develop syllabi and lesson plans for course delivery.

Course Details
The Course Details segment identifies the logistical information required for planning, scheduling, and delivering a course.

Required Resources
The Required Resources segment identifies the resources, equipment, facilities, and personnel required to deliver the course.

Unit
Each Unit represents a collection of aligned topics. Unit 1 is the same for all SFT courses. An instructor is not required to repeat Unit 1 when teaching multiple courses within a single instructional period or academy.

Topics
Each Topic documents a single Terminal Learning Objective and the instructional activities that support it.

Terminal Learning Objective
A Terminal Learning Objective (TLO) states the instructor's expectations of student performance at the end of a specific lesson or unit. Each TLO includes a task (what the student must be able to do), a condition (the setting and supplies needed), and a standard (how well or to whose specifications the task must be performed). TLOs target the performance required when students are evaluated, not what they will do as part of the course.

Enabling Learning Objectives
The Enabling Learning Objectives (ELO) specify a detailed sequence of student activities that make up the instructional content of a lesson plan. ELOs cover the cognitive, affective, and psychomotor skills students must master to complete the TLO.

Discussion Questions
The Discussion Questions are designed to guide students into a topic or to enhance their understanding of a topic. Instructors may add to or adjust the questions to suit their students.

Application
The Application segment documents experiences that enable students to apply lecture content through cognitive and psychomotor activities, skills exercises, and formative testing. Application experiences included in the course plan are required. Instructors may add additional application experiences to suit their student population if time permits.

Instructor Notes
The Instructor Notes segment documents suggestions and resources to enhance an instructor's ability to teach a specific topic.

CTS Guide Reference
The CTS Guide Reference segment documents the standard(s) from the corresponding Certification Training Standard Guide upon which each topic within the course is based. This segment is eliminated if the course is not based on a standard.

Skill Sheet
The Skill Sheet segment documents the skill sheet that tests the content contained within the topic. This segment is eliminated if the course does not have skill sheets.

Alley Dock

Activity 3-3(a)

Format: Individual

Time Frame: Open (based on a total of 18 hours for skills practice and completion)

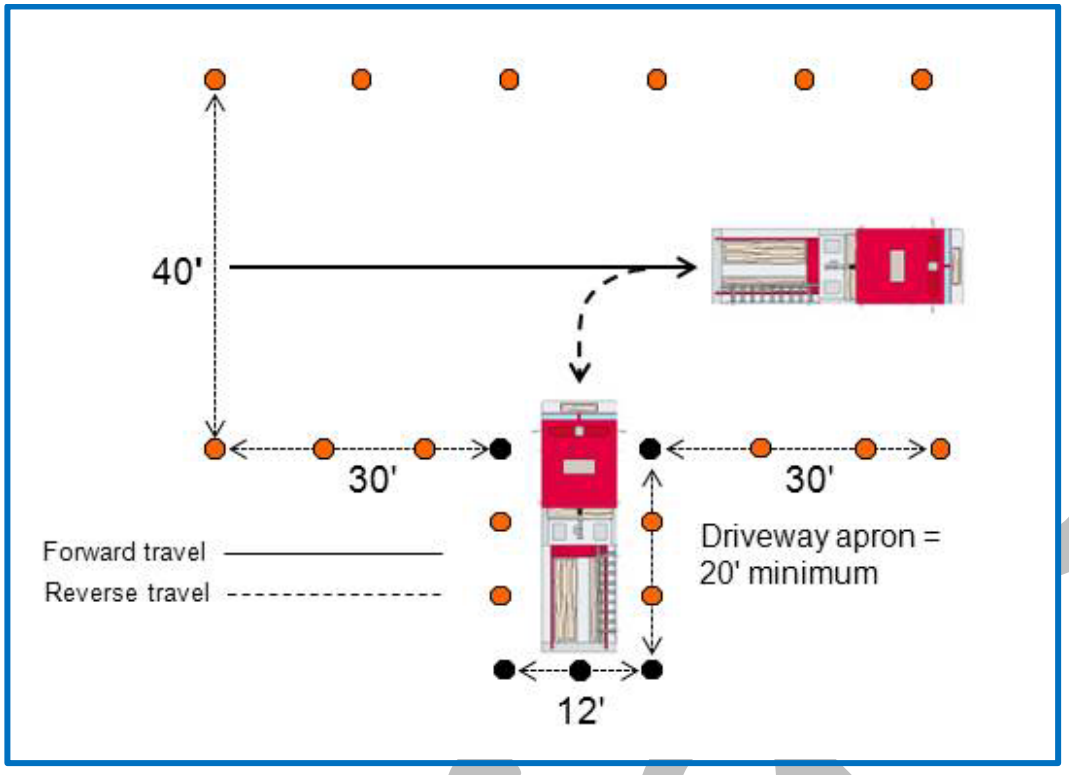
Description
This activity provides students with an opportunity to practice driving past a simulated dock or stall, backing the apparatus into the space provided, and stopping smoothly.

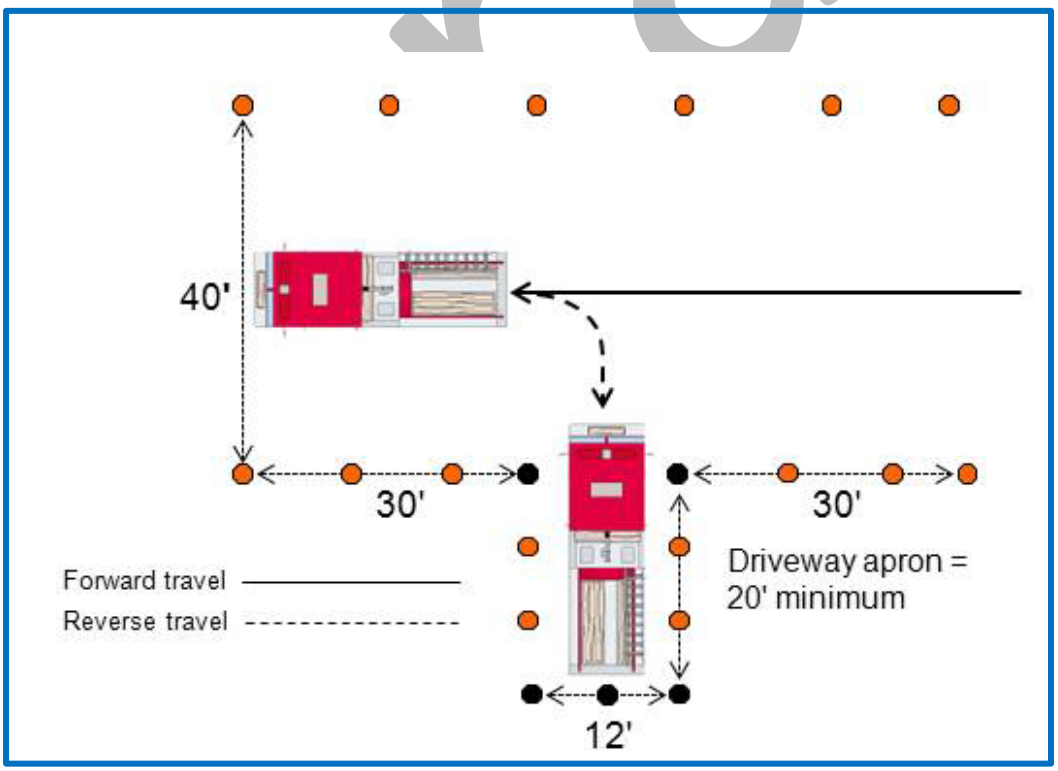
Standard of Completion
Back a fire apparatus from a roadway into restricted spaces on both the right and left sides of the apparatus, given a fire apparatus, a spotter where the spotter assists the driver in performing the maneuver, and restricted spaces 12 ft (3.7 m) in width, requiring 90-degree right-hand and left-hand turns from the roadway, so that the vehicle is parked within the restricted areas without have to stop and pull forward and without striking obstructions. (NFPA 1010 (2024) / Paragraph 11.3.2)

Materials
- Fire apparatus
- Tape measure
- Traffic cones
- Five (5) delineators
- Extra traffic cones and delineators available
- Uniform or PPE as determined by instructor

Instructions
1. Establish two boundary lines 40 feet apart and approximately 72 feet long using traffic cones.
2. Simulate a stall by arranging five (5) delineators off one boundary line, 12 feet apart and approximately 20 feet long.
3. For larger apparatus, course measurements will need to be modified.
4. Place traffic cones on each side of the stall between the delineators.
5. The driver/operator passes the delineators with the stall on the left and then backs the apparatus, using a left turn, into the stall.
6. Repeat the exercise with the stall on the right side, using a right turn.
7. Demonstrate the skill for the students before they practice and complete each activity.

Activity Illustrations





Station Parking

Activity 3-3(b)

Format: Individual

Time Frame: Open (based on a total of 18 hours for skills practice and completion)

Description
This activity provides students with an opportunity to practice backing the apparatus into an apparatus bay.

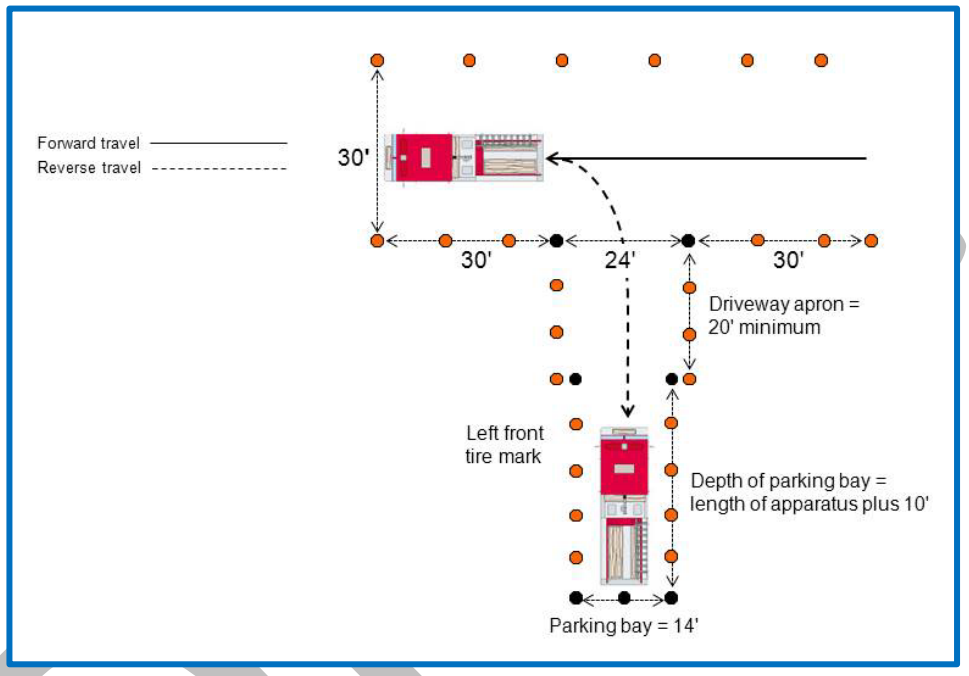
Standard of Completion
Back a fire apparatus from a roadway into restricted spaces on both the right and left sides of the apparatus, given a fire apparatus, a spotter where the spotter assists the driver in performing the maneuver, and restricted spaces 12 ft (3.7 m) in width, requiring 90-degree right-hand and left-hand turns from the roadway, so that the vehicle is parked within the restricted areas without have to stop and pull forward and without striking obstructions. (NFPA 1010 (2024) / Paragraph 11.3.2)

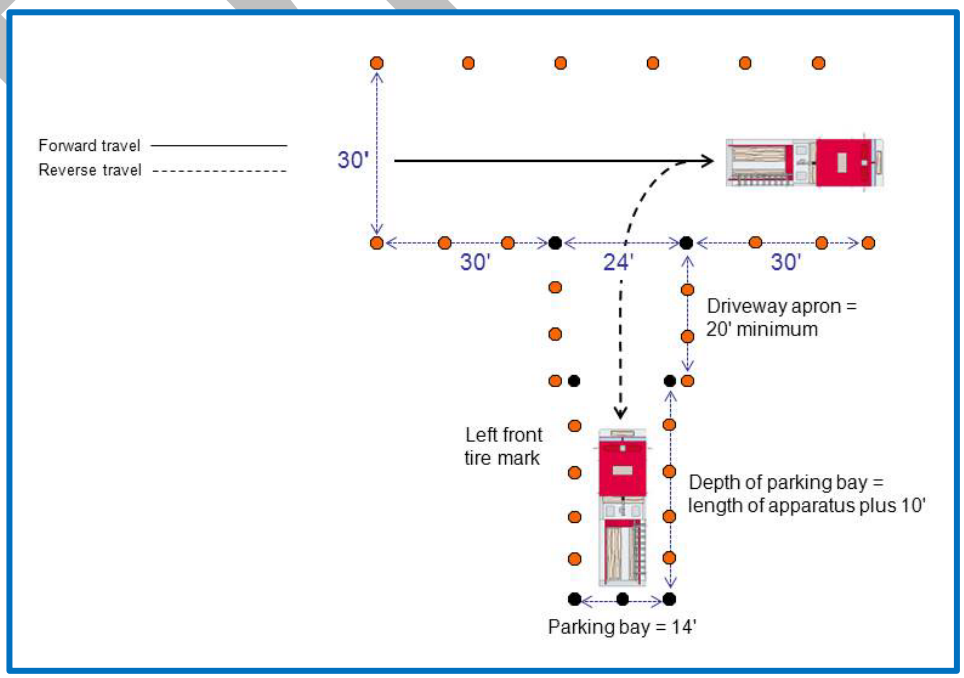
Materials
- Fire apparatus
- Tape measure
- Traffic cones
- Delineators
- Left front tire marker
- Optional straight line marker
- Extra traffic cones and delineators available
- Uniform or PPE as determined by instructor

Instructions
1. Establish two boundary lines 30 feet apart using traffic cones to simulate a street.
2. Simulate a driveway apron by arranging four (4) delineators off one boundary line, 24 feet wide and a minimum of 20 feet long.
    - The instructor can increase the setback from the street based on the representative needs of the area.
3. Place traffic cones on each side of the driveway apron between the delineators.
4. Simulate the entrance to the apparatus bay by placing two (2) delineators 12 feet apart.
5. Place three (3) delineators at the back of the apparatus bay.
    - Determine the depth by the length of the apparatus plus 10 feet.
6. Place traffic cones on each side of the apparatus bay between the delineators.
7. Place a marker on the ground to indicate to the driver/operator the proper position of the left front tire of the apparatus once stopped and parked.

8. An optional straight line can be placed on the floor of the apparatus bay to assist the driver/operator while backing the apparatus, facilitating the use of apparatus mirrors.
9. The driver/operator passes the delineators identifying the driveway apron on the left and then backs the apparatus, using a left turn, into the apparatus bay.
10. Repeat the exercise with the driveway apron on the right side, using a right turn.
11. Demonstrate the skill for the students before they practice and complete each skill.

Activity Illustrations





Serpentine

Activity 3-4

Format: Individual

Time Frame: Open (based on a total of 18 hours for skills practice and completion)

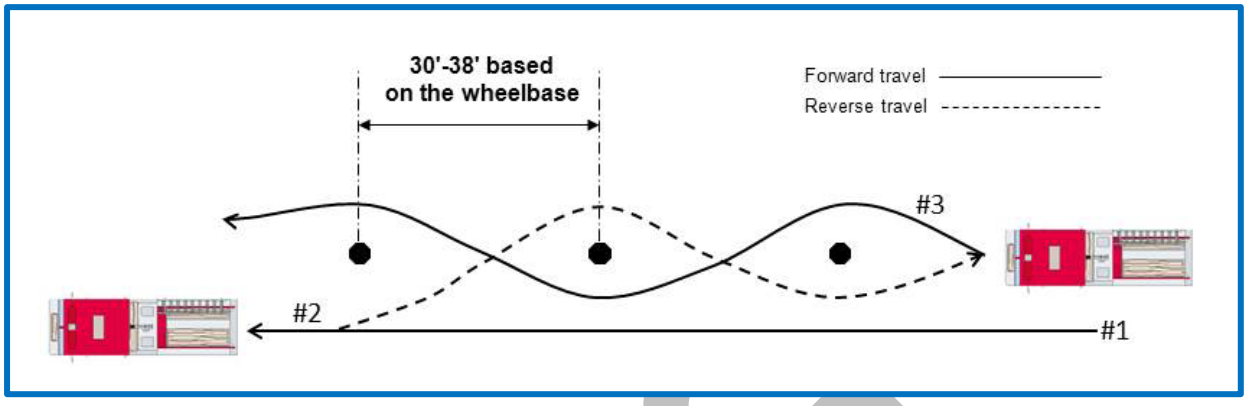
Description
This activity provides students with an opportunity to practice steering the apparatus both forward and backward in close limits without stopping.

Standard of Completion
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 any obstructions. (NFPA 1010 (2024) / Paragraph 11.3.3)

Materials
- Fire apparatus
- Tape measure
- Three (3) delineators
- Uniform or PPE as determined by instructor

Instructions
1. Establish the course or path of travel for this exercise by placing a minimum of three (3) delineators in a straight line.
   - Base the spacing of the delineators on double the wheelbase of the apparatus being used.
   - Clearly identify the evolution's starting and stopping points.
2. Provide adequate space on each side of the delineators for the apparatus to move freely.
3. The driver/operator drives the apparatus along the left side of the markers in a straight line and stops at the identified location.
4. The driver/operator then begins the exercise by backing the apparatus between the delineators by passing to the left of delineator #1, to the right of delineator #2, and to the left of delineator #3.
5. At this point, the driver stops the apparatus and drives it forward between the delineators by passing to the right of delineator #3, to the left of delineator #2, and to the right of delineator #1.
6. Demonstrate the skill for the students before they practice and complete each skill.

Activity Illustration



Confined Space Turnaround

Activity 3-5

Format: Individual

Time Frame: Open (based on a total of 18 hours for skills practice and completion)

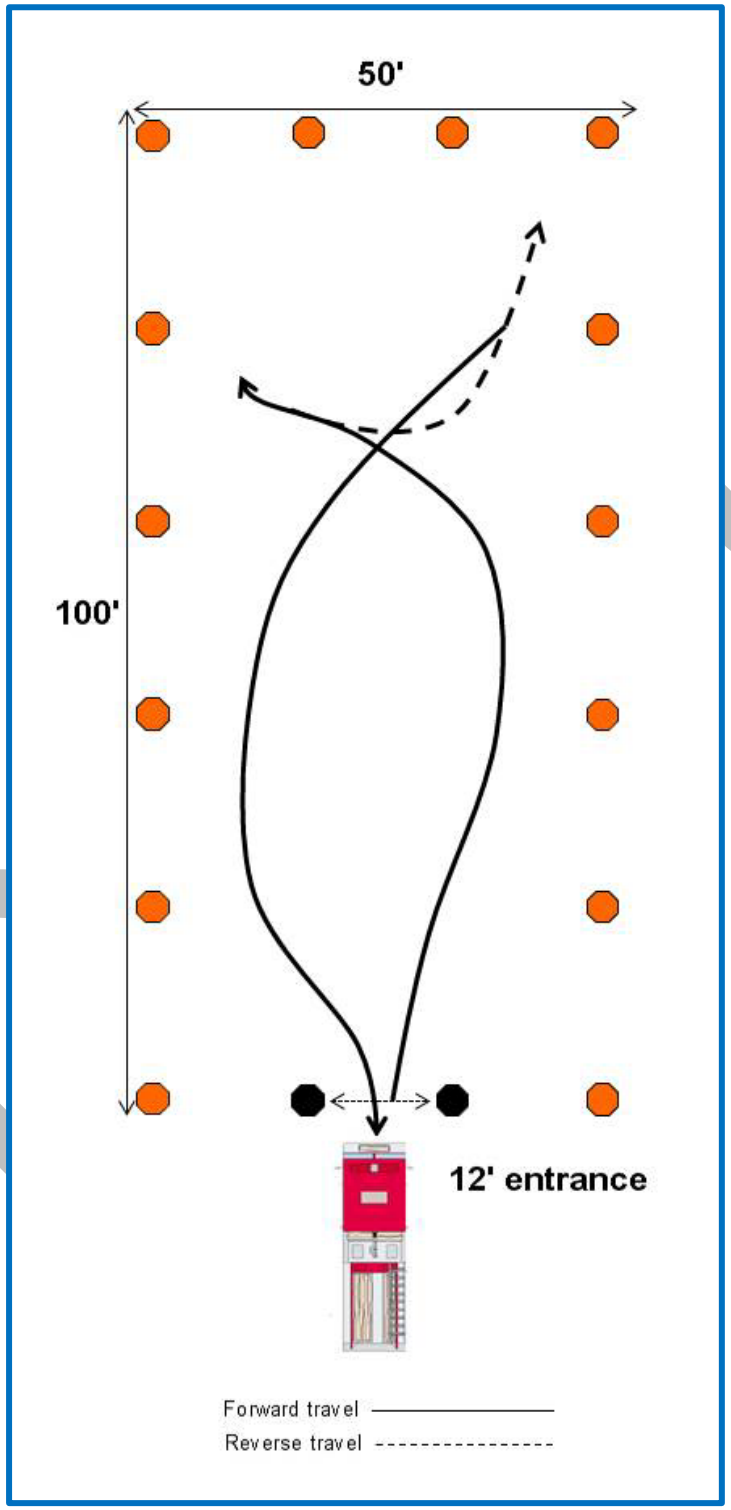
Description
This activity provides students with an opportunity to practice turning the apparatus around in a confined space without striking obstacles.

Standard of Completion
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. (NFPA 1010 (2024) / Paragraph 11.3.4)

Materials
- Fire apparatus
- Tape measure
- Traffic cones or paint
- Two (2) delineators
- Uniform or PPE as determined by instructor

Instructions
1. Establish an area 50 feet × 100 feet by painting lines on the ground or using traffic cones.
   - Modify the course measurements for larger apparatus.
2. Establish an opening by placing two (2) delineators 12 feet apart in the center of one of the 50-foot legs.
3. The driver/operator drives into the area through the 12-foot opening, turns the apparatus 180 degrees, and returns through the opening.
4. There is no limit on the number of times the driver/operator maneuvers the apparatus to accomplish this exercise. However, no portion of the apparatus should extend over the boundary lines of the space.
5. Demonstrate the skill for the students before they practice and complete each skill.

Activity Illustration



Diminishing Clearance

Activity 3-6

Format: Individual

Time Frame: Open (based on a total of 18 hours for skills practice and completion)

Description
This activity provides students with an opportunity to practice steering the apparatus in a straight line, judging distances both horizontal and vertical, and stopping at a finish line. The driver/operator's speed should be great enough to necessitate quick judgment.

Standard of Completion
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 continuous motion, and so that no obstructions are struck. (NFPA 1010 (2024) / Paragraph 11.3.5)

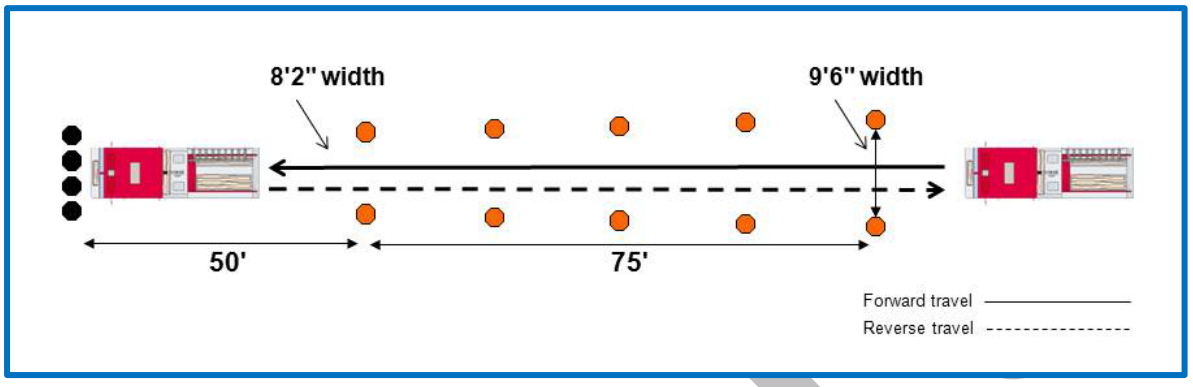
Materials
- Fire apparatus
- Tape measure
- Traffic cones
- Four (4) delineators
- Vertical obstacle
- Uniform or PPE as determined by instructor

Instructions
1. Establish a 75-foot lane using traffic cones.
2. The lane varies in width from 9'6" to a diminishing clearance that is 2" greater than the outside dimension of the tires on the apparatus being used.
3. Establish a finish line at the end of the lane that is 20 feet longer than the apparatus using traffic cones and at least one (1) delineator.
4. Establish at least one (1) adjustable vertical obstacle in the lane.
5. The driver/operator maneuvers the apparatus through this lane without touching the traffic cones or the vertical obstacle.
    - If the driver/operator determines the apparatus cannot clear the vertical obstacle, they should stop the apparatus.
6. The driver/operator stops the apparatus at the finish line with no portion of the apparatus protruding beyond the finish line.
7. The driver/operator drives back through the lane without touching the traffic cones or the vertical obstacle.

- If the driver/operator determines the apparatus cannot clear the vertical obstacle, they should stop the apparatus.

8. The driver/operator stops after the front of the apparatus passes the last traffic cone.
9. Demonstrate the skill for the students before they practice and complete each skill.

Activity Illustration



Pumping Apparatus Operations (2024)

Course Plan

Course Details

Certification: Pumping Apparatus Driver/Operator (2024)

CTS Guide: Fire Apparatus Driver/Operator (2024)

Description: This course provides the knowledge and skills needed to operate and perform preventative maintenance on a pumping apparatus. Topics include routine tests, inspections, and servicing functions; responding to and positioning at an emergency scene; producing hand, master, and foam fire streams; relay pump operations; and supplying water to fire sprinkler and standpipe systems.

Designed For: Personnel who drive and operate a fire department pumping apparatus

Course Prerequisites: OSFM certified Fire Fighter 1 or certified Fire Fighter 2 tenured path (Appointment to the rank of Officer (Lieutenant or higher) waives this prerequisite. Appointment to the CAL FIRE rank of Fire Apparatus Engineer is equivalent to Officer level. Performing in an "acting" capacity does not fulfill this requirement.)

FADO 1A: Fire Apparatus Driver/Operator (2017 or newer)

A valid driver's license

Standard: Successful completion of all skills and activities

Achieve a minimum score of 80% on a cognitive summative test

Hours (Total): 40 hours (18 lecture / 21 application / 1 testing)

Maximum Class Size: 30

Instructor Level: SFT Pumping Apparatus Driver/Operator Registered Instructor

Instructor/Student Ratio: 1:30 (lecture) / 1:6 (application)

Restrictions: All instructors counted toward student ratios, including application components, must be SFT Pumping Apparatus Driver/Operator Registered Instructors

Sufficient fire apparatus and space to accommodate classroom and skills training

SFT Designation: CFSTES

Table of Contents

Required Resources

Instructor Resources

To teach this course, instructors need:

- One of the following textbooks
  - *Fire Apparatus Driver/Operator: Pump, Aerial, Tiller, and Mobile Water Supply* (Jones & Bartlett, current edition)
  - *Pumping and Aerial Apparatus Driver/Operator Handbook* (IFSTA, current edition)
- Maintenance and inspection forms
- Manufacturer's specifications and requirements
- Digital or print access to NFPA 13, NFPA 13D, NFPA 13E, NFPA 13R, NFPA 14, and NFPA 20

Online Instructor Resources

The following instructor resources are available online at https://osfm.fire.ca.gov/what-we-do/state-fire-training/professional-certifications:

- Pumping Apparatus Operations required activities
  - Activity 4-4: Produce an Effective Hand Line and Master Stream
  - Activity 4-5: Pump a Supply Line for a Relay Operation
  - Activity 4-6: Produce a Foam Fire Stream
  - Activity 4-7: Supply Water to Fire Sprinkler and Standpipe Systems

Student Resources

To participate in this course, students need:

- Textbook selected by the instructor
- Personal protective equipment (minimum = long pants, wildland jacket, gloves, helmet, footwear with toe protection)

Facilities, Equipment, and Personnel

The following facilities, equipment, or personnel are required to deliver this course:

- Standard learning environment or facility
  - Writing board or paper conference pads
  - Markers, erasers
  - Computer or tablet with presentation or other viewing software
  - Amplification devices
  - Projector and screen
- Sufficient pumping apparatus to accommodate the students in the class
  - Recommend at least 30 minutes of pumping time per student across Topics 4-4 through 4-7.
- Adequate space to accommodate the required skills
- Tools and equipment for inspection and testing

- Pressurized water source (hydrant or supply line from another pumping apparatus)
- Static water source (drafting pit, portable tank, or natural water source)
- Hard suction hose
- Foam portioning system
- Foam or foam substitute
- Sprinkler system or mockup appliance
- Standpipe system or mockup appliance
- Tools and equipment
- Personal protective equipment (students)

Timetable

Segment	Lecture	Application	Unit Total
Unit 1: Introduction			
Topic 1-1: Orientation and Administration	0.5	0.0	
Topic 1-2: Pumping Apparatus Driver/Operator Certification	0.5	0.0	
Unit 1 Totals	**1.0**	**0.0**	**1.0**
Unit 2: Roles and Responsibilities			
Topic 2-1: Pumping Apparatus Driver/Operator Roles and Responsibilities	2.0	0.0	
Unit 2 Totals	**2.0**	**0.0**	**2.0**
Unit 3: Preventative Maintenance			
Topic 3-1: Perform Visual and Operational Checks	4.0	0.0	
Unit 3 Totals	**4.0**	**0.0**	**4.0**
Unit 4: Operations			
Topic 4-1: Responding on an Apparatus to an Emergency Scene	0.25	0.0	
Topic 4-2: Positioning and Operating at Emergency and Nonemergency Scenes	0.25	0.0	
Topic 4-3: Connecting to a Water Supply	0.5	0.0	
Topic 4-4: Producing Effective Hand Lines and Master Streams	6.0	*	
Topic 4-5: Pumping a Supply Line for a Relay Operation	1.0	*	
Topic 4-6: Producing a Foam Fire Stream	1.0	*	
Topic 4-7: Supplying Water to Fire Sprinkle and Standpipe Systems	2.0	*	
Unit 4 Totals	**11.0**	**21.0**	**32.0**
Summative Assessment			
Determined by AHJ or educational institution	**0.0**	**1.0**	**1.0**
Skills Practice (Lab / Sets and Reps)			
Determined by AHJ or educational institution	**0.0**	**0.0**	**0.0**
Course Totals	**18.0**	**22.0**	**40.0**

* Individual application time determined by instructor for a total of 21 hours for Unit 4. Recommend at least 30 minutes of pumping time per student across Topics 4-4 through 4-7.

Timetable Key

1. The Timetable documents the amount of time required to deliver the content included in the course plan.

2. Time is documented using the quarter system:
   - 15 min. = 0.25 hours
   - 30 min. = 0.50 hours
   - 45 min. = 0.75 hours
   - 60 min. = 1.00 hours

3. The Course Totals do not reflect time for lunch (1 hour) or breaks (10 minutes per each 50 minutes of instruction or assessment). It is the instructor's responsibility to add this time based on the course delivery schedule.

4. Application (activities, skills exercises, and formative testing) time will vary depending on the number of students enrolled. The Application time documented is based on the maximum class size identified in the Course Details section.

5. Summative Assessments are determined and scheduled by the authority having jurisdiction. These are not the written or psychomotor State Fire Training certification exams. These are in-class assessments to evaluate student progress and calculate course grades.

Unit 1: Introduction

Topic 1-1: Orientation and Administration

Terminal Learning Objective

At the end of this topic a student will be able to identify facility and classroom requirements and identify course objectives, events, requirements, assignments, activities, skills exercises, resources, evaluation methods, and participation requirements in the course syllabus.

Enabling Learning Objectives

1. Identify facility requirements
    - Restroom locations
    - Food locations
    - Smoking locations
    - Emergency procedures
2. Identify classroom requirements
    - Start and end times
    - Breaks
    - Electronic device policies
    - Special needs and accommodations
    - Other requirements as applicable
3. Review course syllabus
    - Course objectives
    - Calendar of events
    - Course requirements
    - Student evaluation process
    - Assignments
    - Activities and skills exercises
    - Required student resources
    - Class participation requirements

Discussion Questions

1. Determined by instructor

Application

1. Determined by instructor

Instructor Notes

1. None

Topic 1-2: Pumping Apparatus Driver/Operator Certification

Terminal Learning Objective

At the end of this topic a student will be able to identify the requirements for Pumping Apparatus Driver/Operator certification and be able to describe the certification task book and examination process.

Enabling Learning Objectives

1. Identify different levels of certification in the Fire Apparatus Driver/Operator certification track
   - Pumping Apparatus
   - Aerial Apparatus
   - Tillered Apparatus
   - Wildland Fire Apparatus
   - Water Tender
2. Identify the prerequisites for certification
   - One of the following:
     - OSFM Fire Fighter 1 certification **or**
     - Appointment to the rank of Officer (Lieutenant or higher) or CAL FIRE rank of Fire Apparatus Engineer (Performing in an "acting" capacity does not fulfill this requirement.) **and**
   - Valid Class C Firefighter Endorsed **or** Commercial A **or** Commercial B driver's license (per California Vehicle Code, Section 12804.11)
3. Identify the courses required for certification
   - Pumping Apparatus
     - FADO 1A: Fire Apparatus Driver/Operator (2017 or newer)
     - FADO 1B: Pumping Apparatus Operations (2017 or newer)
4. Identify the exams required for certification
   - No exams outside of class formative and summative testing
5. Identify the task book requirements for certification
   - Pumping Apparatus Certification Task Book (2024)
6. Identify the experience requirements for certification (both required)
   - A minimum of one year full-time paid or two years' volunteer or part-time paid experience in a recognized California fire agency with the primary responsibility as a Pumping Apparatus Driver/Operator
7. Identify the position requirements for certification
   - The position requirement is met when the applicant fulfills the role of the specific duties as defined by the fire chief
8. Describe the certification task book process
9. Describe the certification testing process
   - Not applicable

Discussion Questions

1. Determined by instructor

Application

1. Determined by instructor

Instructor Notes

1. None

Unit 2: Roles and Responsibilities

Topic 2-1: Pumping Apparatus Driver/Operator Roles and Responsibilities

Terminal Learning Objective

At the end of this topic a student, given AHJ roles, responsibilities, policies and procedures, will be able to describe the roles and responsibilities of a pumping apparatus driver/operator and identify how they differ from being a passenger.

Enabling Learning Objectives

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 fire fighter 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 fire fighter
9. Identify the critical aspects of NFPA 1500 (current edition)

Discussion Questions

1. How are SOPs different from SOGs and they apply to pump operations?
2. What injuries are common to pumping apparatus driver/operators?
3. How does your agency provide incident stress support for driver/operators?
4. Why is physical fitness important for a pumping apparatus driver/operator?

Application

1. Determined by instructor

Instructor Notes:

1. None

CTS Guide Reference: CTS 3-1

Unit 3: Preventative Maintenance

Topic 3-1: Perform Visual and Operational Checks

Terminal Learning Objective

At the end of this topic a student, given a pumping apparatus, tools and equipment, maintenance and inspection forms, manufacturer's specifications and requirements, and AHJ policies and procedures, will be able to 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) so that the operational status of the pumping apparatus is verified.

Enabling Learning Objectives

1. Identify manufacturer's specifications and requirements
2. Identify AHJ policies and procedures including documentation requirements
3. Describe pumping systems and components
    - Types
        - Positive displacement
        - Centrifugal
        - Single/multistage
    - Transfer of power
    - Priming systems
    - Pumping systems
    - Foam systems
    - Pressure control devices
    - Gauges
    - Valves and plumbing
    - Water tank and other extinguishing agent levels (if applicable)
        - Steel tanks
        - Aluminum tanks
        - Poly tanks
4. Use tools and equipment
5. Inspect fire pump and components
6. Recognize system problems and out-of-service criteria
7. Correct any deficiency noted according to AHJ policies and procedures and/or manufacturer specifications and requirements

Discussion Questions

1. What are the advantages/disadvantages of positive placement and centrifugal pumps?
2. What is the function of the priming system?
3. In what ways can power be transferred to the pump?
4. What is your AHJ's process for trouble-shooting mechanical issues while operating a fire pump?
5. What types of repairs can driver/operators complete? What types of repairs need to be completed by a mechanic or technician?

6. What process does your AHJ use to communicate apparatus deficiencies discovered during pumping operations?

Application

1. Determined by instructor

Instructor Notes

1. None

CTS Guide Reference: CTS 5-1

Unit 4: Operations

Topic 4-1: Responding on an Apparatus to an Emergency Scene

Terminal Learning Objective

At the end of this topic a student, given safety equipment as provided by the AHJ, will be able to respond on an apparatus to an emergency scene so that the apparatus is correctly mounted and dismounted and seat belts are used while the vehicle is in motion.

Enabling Learning Objectives

1. Describe recommended safety practices for getting on and off a fire apparatus
2. Identify hazards that exist for personnel on a fire apparatus and how to avoid them
3. Identify prohibited practices
4. Describe types of department safety equipment and how each is used
5. Use each piece of provided safety equipment

Discussion Questions

1. What passenger and apparatus safety considerations should a driver/operator review before leaving the station? How does this differ from considerations when responding to an incident?
2. What precautions should a driver/operator take when entering an intersection?
3. Given incident information and report on conditions, what strategies and tactics should you anticipate performing upon arrival at an incident?

Application

1. Determined by instructor

Instructor Notes:

1. Although this is covered in Fire Fighter 1, reteach it here from a pumping apparatus driver/operator perspective.

CTS Guide Reference: CTS 6-1

Topic 4-2: Positioning and Operating at Emergency and Nonemergency Scenes

Terminal Learning Objective

At the end of this topic a student, given safety equipment, traffic and scene control devices, emergency and nonemergency scenes, traffic and other hazards, an assignment, and SOPs, will be able to position and operate in work areas at emergency and nonemergency scenes 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.

Enabling Learning Objectives

1. Identify potential hazards involved in operation on emergency and nonemergency scenes including vehicle traffic, utilities, and environmental/weather 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
5. Utilize safety equipment appropriate for incident and conditions
6. Deploy traffic and scene control devices
7. Dismount apparatus
8. Establish and operate in the protected work areas as directed

Discussion Questions

1. What items will a driver/operator need for traffic control?
2. What considerations go into pumping apparatus placement at a structure fire?
3. What considerations go into pumping apparatus placement at a wildland incident?
4. What are some potential hazards when parking at a traffic collision?

Application

1. Determined by instructor

Instructor Notes:

1. Although this is covered in Fire Fighter 1, reteach it here from a pumping apparatus driver/operator perspective.

CTS Guide Reference: CTS 6-2

Topic 4-3: Connecting to a Water Supply

Terminal Learning Objective

At the end of this topic a student, given supply or intake hose, hose tools, and a fire hydrant or static water source, will be able to connect a pumping apparatus to a water supply as a member of a team, so that connections are tight and water flow is unobstructed.

Enabling Learning Objectives

1. Describe loading and off-loading procedures for pumping apparatus
2. Describe fire hydrant operations
3. Identify suitable static water supply sources
4. Describe procedures and protocol for connecting to various water sources
5. Hand lay a supply hose
6. Connect and place hard suction hose for drafting operations
7. Deploy portable water tanks as well as the equipment necessary to transfer water between and draft from them
8. Make hydrant-to-apparatus hose connections for forward and reverse lays
9. Connect supply hose to a hydrant
10. Fully open and close the hydrant

Discussion Questions

1. What are some considerations when choosing a fire hydrant?
2. What are some considerations when positioning at a fire hydrant or static water source?
3. What are your agency's standard operations guidelines for choosing a supply line?

Application

1. Determined by instructor

Instructor Notes:

1. Although this is covered in Fire Fighter 1, reteach it here from a pumping apparatus driver/operator perspective.

CTS Guide Reference: CTS 6-3

Topic 4-4: Producing Effective Hand Lines and Master Streams

Terminal Learning Objective

At the end of this topic a student, given an internal water tank, a pressurized water source, a static water source, and transfer from internal tank to external source, will be able to produce an effective hand line and master stream 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.

Enabling Learning Objectives

1. Describe hydraulic calculations for friction loss and flow using both written formulas and estimation methods
    - Single line
    - Multiple lines
    - Mixed GPM
    - Mixed hose lengths
2. Explain pump discharge pressure calculations
3. Describe water sources
    - Internal water tank
    - Pressurized
        - High pressure
        - Low pressure
    - Static
    - Private
4. Describe the reliability of static sources
5. Describe proper positioning of a pumping apparatus
    - Hydrant
    - Standpipes
    - Drafting
6. Describe safe operation of the pump
    - Introduction of water
    - Cavitation
    - Water hammer
    - Overheating
    - Discharge gates
    - Pressure control devices
7. Describe how to pump
    - Single line
    - Multiple lines
    - Mixed GPM
    - Mixed hose lengths
8. Identify problems related to small-diameter or dead-end mains
9. Describe hydrant coding systems
10. Describe the principles of drafting

11. Identify communication points between pump driver/operator and crew
    - Supply established
    - Charging hose lines
    - GPM changes
    - Low supply
12. Position a pumping apparatus to operate at
    - A fire hydrant
    - A static water source
13. Transfer power from apparatus engine to pump
14. Establish a draft from a static water source
15. Operate pumping apparatus pressure control systems
16. Operate the volume/pressure transfer valve (multistage pumps only)
17. Operate auxiliary cooling systems
18. Make the transition between internal and external water sources
19. Assemble hose lines, nozzles, valves, and appliances
20. Apply hydraulic calculations to produce an effective stream

Discussion Questions

1. Why are pump calculations important to pump operations?
2. What is the earliest indication of impending cavitation?
3. How does a discharge relief valve operate?
4. When might a driver/operator need to communicate or coordinate with public works or a water district?

Application

1. Activity 4-4: Produce an Effective Hand Line and Master Stream

CTS Guide Reference: CTS 6-4

Topic 4-5: Pumping a Supply Line for a Relay Operation

Terminal Learning Objective

At the end of this topic a student, given a relay pumping evolution the length and size of the line and the desired flow and intake pressure, will be able to pump a supply line of 2½ in. (65 mm) or larger so that the correct pressure and flow are provided to the next pumping apparatus in the relay.

Enabling Learning Objectives

1. Describe the need for relay pumping operations
   - Distance
   - Elevation
   - Volume
2. Describe hydraulic calculations for friction loss and flow using both written formulas and estimation methods
3. Describe pump discharge pressure calculations
4. Identify communication points between pump driver/operators
   - Supply established
   - Charging hose lines
   - GPM changes
   - Pressure changes/needs
   - Low supply
5. Position a pumping apparatus to operate at a:
   - Fire hydrant
   - Static water source
6. Transfer power from pumping apparatus engine to pump
7. Establish a draft from a static water source
8. Operate apparatus pressure control systems
9. Operate the volume/pressure transfer valve (multistage pumps only)
10. Operate auxiliary cooling systems
11. Make the transition between internal and external water sources
12. Assemble hose lines, nozzles, valves, and appliances
13. Apply hydraulic calculations to a relay operation

Discussion Questions

1. In what situations would you use a relay pumping operation?
2. What method do you use when calculating your pump discharge pressure for a relay operation?
3. What needs to be considered when relay pumping to an aerial master stream?

Application

1. Activity 4-5: Pump a Supply Line for a Relay Operation

CTS Guide Reference: CTS 6-5, CTS 14-2

Topic 4-6: Producing a Foam Fire Stream

Terminal Learning Objective

At the end of this topic a student, given a pumping apparatus, foam-producing equipment, foam concentrate, and manufacturer's specifications and requirements, will be able to produce a foam fire stream so that proportioned foam is properly provided.

Enabling Learning Objectives

1. Describe proportioning rates and concentrations
2. Describe equipment assembly procedures
3. Identify foam system limitations
4. Identify manufacturer's specifications and requirements
5. Identify environmental factors that restrict foam use
6. Identify communication points between pump driver/operator and crew
7. Operate foam proportioning equipment
8. Connect foam stream equipment

Discussion Questions

1. When is foam use appropriate?
2. When is foam use not appropriate?
3. How do you prime the foam system?
4. How would you troubleshoot an inoperable foam system?

Application

1. Activity 4-6: Produce a Foam Fire Stream

CTS Guide Reference: CTS 6-6, CTS 14-3

Topic 4-7: Supplying Water to Fire Sprinkler and Standpipe Systems

Terminal Learning Objective

At the end of this topic a student, given a pumping apparatus, sprinkler and standpipe system, and specific system information, will be able to supply water to fire sprinkler and standpipe systems so that the water is supplied at the correct volume and pressure.

Enabling Learning Objectives

1. Describe hydraulic calculations for friction loss and flow using both written formulas and estimation methods
2. Describe how to calculate pump discharge pressure
3. Describe hose layouts
   - Supply line
   - Attack line
4. Identify the location of fire department connections
5. Describe alternative supply procedures if fire department connection is not usable
6. Describe operating principles of sprinkler systems as defined in NFPA 13, NFPA 13D, and NFPA 13R
7. Describe fire department operations in sprinklered properties as defined in NFPA 13E
8. Describe the operating principles of standpipe systems as defined in NFPA 14
9. Identify communication points between pump driver/operator and crew
   - Supply established
   - Charging hose lines
   - GPM changes
   - Pressure changes/needs
   - Low supply
10. Describe how to augment structures with built-in fire pumps (NFPA 20)
11. Position a pumping apparatus to operate at a:
   - Fire hydrant
   - Static water source
12. Transfer power from pumping apparatus engine to pump
13. Operate apparatus pressure control systems
14. Operate the volume/pressure transfer valve (multistage pumps only)
15. Operate auxiliary cooling systems
16. Make the transition between internal and external water sources
17. Assemble hose lines, nozzles, valves, and appliances
18. Apply hydraulic calculations to sprinkler and standpipe systems

Discussion Questions

1. How do your operations differ when supplying a wet versus a dry standpipe?
2. What is your operation when pumping to a high-rise?
3. When and how should you connect to a sprinkler or standpipe system?

Application

1. Activity 4-7: Supply Water to Fire Sprinkler and Standpipe Systems

Instructor Notes:

1. None

CTS Guide Reference: CTS 6-7

How to Read a Course Plan

A course plan identifies the details, logistics, resources, and training and education content for an individual course. Whenever possible, course content is directly tied to a national or state standard. SFT uses the course plan as the training and education standard for an individual course. Individuals at fire agencies, academies, and community colleges use course plans to obtain their institution's consent to offer course and provide credit for their completion. Instructors use course plans to develop syllabi and lesson plans for course delivery.

Course Details
The Course Details segment identifies the logistical information required for planning, scheduling, and delivering a course.

Required Resources
The Required Resources segment identifies the resources, equipment, facilities, and personnel required to deliver the course.

Unit
Each Unit represents a collection of aligned topics. Unit 1 is the same for all SFT courses. An instructor is not required to repeat Unit 1 when teaching multiple courses within a single instructional period or academy.

Topics
Each Topic documents a single Terminal Learning Objective and the instructional activities that support it.

Terminal Learning Objective
A Terminal Learning Objective (TLO) states the instructor's expectations of student performance at the end of a specific lesson or unit. Each TLO includes a task (what the student must be able to do), a condition (the setting and supplies needed), and a standard (how well or to whose specifications the task must be performed). TLOs target the performance required when students are evaluated, not what they will do as part of the course.

Enabling Learning Objectives
The Enabling Learning Objectives (ELO) specify a detailed sequence of student activities that make up the instructional content of a lesson plan. ELOs cover the cognitive, affective, and psychomotor skills students must master in order to complete the TLO.

Discussion Questions
The Discussion Questions are designed to guide students into a topic or to enhance their understanding of a topic. Instructors may add to or adjust the questions to suit their students.

Application
The Application segment documents experiences that enable students to apply lecture content through cognitive and psychomotor activities, skills exercises, and formative testing. Application experiences included in the course plan are required. Instructors may add additional application experiences to suit their student population if time permits.

Instructor Notes
The Instructor Notes segment documents suggestions and resources to enhance an instructor's ability to teach a specific topic.

CTS Guide Reference
The CTS Guide Reference segment documents the standard(s) from the corresponding Certification Training Standard Guide upon which each topic within the course is based. This segment is eliminated if the course is not based on a standard.

Skill Sheet
The Skill Sheet segment documents the skill sheet that tests the content contained within the topic. This segment is eliminated if the course does not have skill sheets.

Produce an Effective Hand Line and Master Stream

Activity 4-4

Format: Individual

Time Frame: Open (based on a total of 21 hours for skills practice and completion)

Description
This activity provides students with an opportunity to practice producing hand lines and master streams from four identified water sources. Hand line practice should include using both single hose line and variable hose line (multiple lines, mixed GPM, mixed hose lengths) configurations.

Standard of Completion
Produce effective hand and master streams, given the sources specified in the following list, 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:

1) Internal tank
2) Pressurized source
3) Static source
4) Transfer from internal tank to external source

(NFPA 1010 (2024) / Paragraph 12.4.4)

Materials

- Pumping apparatus
- Pressurized water source (hydrant or supply line from another pumping apparatus)
- Static water source (drafting pit, portable tank, or natural water source)
- Hard suction hose
- Tools and equipment
- Radio equipment
- PPE (including gloves and helmet)

Instructor Notes

- Demonstrate the skill for the students before they practice and complete each skill.
- The goal for hand lines is to have students flow hand lines from various water sources (tank water, hydrant, etc.)
- The goal for master streams is to put a master stream in service from a hydrant.

Pump a Supply Line for a Relay Operation

Activity 4-5

Format: Individual

Time Frame: Open (based on a total of 21 hours for skills practice and completion)

Description
This activity provides students with an opportunity to practice pumping water from one apparatus to the next using a 2½" or larger supply line.

Standard of Completion
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. (NFPA 1010 (2024) / Paragraph 12.4.5)

Materials
- Minimum of two (2) pumping apparatus
- Tools and equipment
- Radio equipment
- PPE (including gloves and helmet)

Instructor Notes
- Demonstrate the skill for the students before they practice and complete each skill.

Produce a Foam Fire Stream

Activity 4-6

Format: Individual

Time Frame: Open (based on a total of 21 hours for skills practice and completion)

Description
This activity provides students with an opportunity to practice properly proportioning the foam and producing a foam fire stream.

Standard of Completion
Produce a foam fire stream, given foam-producing equipment and manufacturer's specifications and requirements, so that proportioned foam is provided. (NFPA 1010 (2024) / Paragraph 12.4.6)

Materials
- Pumping apparatus
- Foam portioning system
- Foam or foam substitute
- Tools and equipment
- Radio equipment
- PPE (including gloves and helmet)

Instructor Notes
- Demonstrate the skill for the students before they practice and complete each skill.

Supply Water to Fire Sprinkler and Standpipe Systems

Activity 4-7

Format: Individual

Time Frame: Open (based on a total of 21 hours for skills practice and completion)

Description
This activity provides students with an opportunity to practice supplying water to fire sprinkler and standpipe systems at the correct volume and pressure.

Standard of Completion
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. (NFPA 1010 (2024) / Paragraph 12.4.7)

Materials
- Pumping apparatus
- Sprinkler system or mockup appliance
- Standpipe system or mockup appliance
- Tools and equipment
- Radio equipment
- PPE (including gloves and helmet)

Instructor Notes
- Demonstrate the skill for the students before they practice and complete each skill.

Pumping Apparatus Driver/Operator

(NFPA 1010: Standard on Professional Qualifications for Firefighters)

Certification Task Book (2024)

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

Overview

Authority

This certification task book includes the certification training standards set forth in the Fire Apparatus Driver/Operator Certification Training Standards Guide (2024) which is based on NFPA 1010: Standard on Professional Qualifications for Firefighters (2024).

Published: Month Year
Published by: State Fire Training, PO Box 944246, Sacramento, CA 94244-2460
Cover photo courtesy of Name, Job Title, Organization.

Purpose

The State Fire Training certification task book is a performance-based document that identifies the minimum requirements necessary to perform the duties of that certification. Completion of a certification task book verifies that the candidate has the required experience, holds the required position, and has demonstrated the job performance requirements to obtain that certification.

Assumptions

Except for the Fire Fighter and Emergency Vehicle Technician (EVT) certifications, a candidate may begin the task book initiation process upon completion of all required education components (courses).

Each job performance requirement (JPR) shall be evaluated after the candidate's fire chief initiates the task book.

An evaluator may verify satisfactory execution of a job performance requirement (JPR) through the following methods:

- First-hand observation
- Review of documentation that verifies prior satisfactory execution

State Fire Training task books do not count towards the NWCG task book limit. There is no limit to the number of State Fire Training task books a candidate may pursue at one time as long as the candidate meets the initiation requirements of each.

It is the candidate's responsibility to routinely check the State Fire Training website for updates to an initiated task book. All State Fire Training issued updates to an initiated task book are required for task book completion.

A candidate must complete a task book within five years its initiation date. Otherwise, a candidate must initiate a new task book using the certification's current published version.

Roles and Responsibilities

Candidate

The candidate is the individual pursuing certification.

Initiation

The candidate shall:

1. Complete all Initiation Requirements.
   - Please print or type.
2. Obtain their fire chief's signature as approval to open the task book.
   - A candidate may not obtain evaluation signatures prior to the fire chief's initiation approval date.

Completion

The candidate shall:

1. Complete all Job Performance Requirements.
   - Ensure that an evaluator initials, signs, and dates each task to verify completion.
2. Complete all Completion Requirements.
3. Sign and date the candidate verification statement under **Review and Approval** with a handwritten signature.
4. Obtain their fire chief's handwritten (not stamped) signature on the fire chief verification section.
5. Create and retain a physical or high-resolution digital copy of the completed task book

Submission

The candidate shall:

1. Submit a copy (physical or digital) of the completed task book and any supporting documentation to State Fire Training.
   - See Submission and Review below.

A candidate should not submit a task book until they have completed all requirements and obtained all signatures. State Fire Training will reject and return an incomplete task book.

Evaluator

An evaluator is any individual who verifies that the candidate can satisfactorily execute a job performance requirement (JPR).

An evaluator may verify satisfactory execution through the following methods:

- First-hand observation
- Review of documentation that verifies prior satisfactory execution

A qualified evaluator is designated by the candidate's fire chief* and holds an equivalent or higher-level certification. If no such evaluator is present, the fire chief shall designate an individual with more experience than the candidate and a demonstrated ability to execute the job performance requirements.

A task book evaluator may be, but is not required to be, a registered skills evaluator who oversees a State Fire Training certification exam.

A certification task book may have more than one evaluator.

All evaluators shall:

1. Complete a block on the **Signature Verification** page with a handwritten signature.
2. Review and understand the candidate's certification task book requirements and responsibilities.
3. Verify the candidate's successful completion of one or more job performance requirements through observation or review.
    - Do not evaluate any job performance requirement (JPR) until after the candidate's fire chief initiates the task book.
    - Sign all appropriate lines in the certification task book with a handwritten signature or approved digital signature (e.g. Docusign or Adobe Sign) to record demonstrated performance of tasks.

* For certification task books that do not require fire chief initiation, academy instructors serve as or designate evaluators.

Fire Chief

The fire chief is the individual who initiates (when applicable) and then reviews and confirms the completion of a candidate's certification task book.

A fire chief may identify an authorized designee already on file with State Fire Training to fulfill any task book responsibilities assigned to the fire chief. (See *State Fire Training Procedures Manual*, 4.2.2: Authorized Signatories.)

Initiation

The fire chief shall:

1. Review and understand the candidate's certification task book requirements and responsibilities.

2. Verify that the candidate has met all **Initiation Requirements** prior to initiating the candidate's task book.
3. Open the candidate's task book by signing the **Fire Chief Approval** verification statement with a handwritten (not stamped) signature.
4. Designate qualified evaluators.

Completion

The fire chief shall:

1. Confirm that the candidate has obtained the appropriate signatures to verify successful completion of each job performance requirement.
   - Ensure that all **Job Performance Requirements** were evaluated after the initiation date.
2. Confirm that the candidate meets the **Completion Requirements**.
3. Sign and date the Fire Chief verification statement under **Review and Approval** with a handwritten signature.
   - If signing as an authorized designee, verify that your signature is on file with State Fire Training.

Submission and Review

A candidate should not submit a task book until they have completed all requirements and obtained all signatures. State Fire Training will reject and return an incomplete task book.

To submit a completed task book, please send the following items to the address below:

- A copy of the completed task book (candidate may retain the original)
- All supporting documentation
- Payment

State Fire Training
Attn: Certification
PO Box 944246
Sacramento, CA 94244-2460

State Fire Training reviews all submitted task books.

- If the task book is complete, State Fire Training will authorize the task book and retain a digital copy of the authorized task book in the candidate's State Fire Training file.
- If the task book is incomplete, State Fire Training will return the task book with a notification indicating what needs to be completed prior to resubmission.

Completion of this certification task book is one step in the certification process. Please refer to the *State Fire Training Procedures Manual* for the complete list of qualifications required for certification.

Initiation Requirements

The following requirements must be completed prior to initiating this task book.

Candidate Information

Name: _____

SFT ID Number: _____

Fire Agency: _____

Prerequisites

The candidate meets the following prerequisites.

- OSFM Fire Fighter 1 certification
  or
- Appointment to the rank of Officer (Lieutenant or higher) **or** CAL FIRE rank of Fire Apparatus Engineer waives this certification prerequisite. *Performing in an "acting" capacity does not fulfill this requirement.*

Rank	Appointment Date

- Valid Class C Firefighter Endorsed **or** Commercial A **or** Commercial B driver's license (per California Vehicle Code, Section 12804.11). *Submit a copy of the license*.

License or Permit	Granting Agency/Institution	License/Permit #	Expiration Date

Include documentation to verify prerequisite requirements when you submit your task book unless verification is already documented in your SFT User Portal.

Education

The candidate has completed the following course(s).

- FADO 1A: Fire Apparatus Driver/Operator (2017 or newer)
- FADO 1B: Pumping Apparatus Operations (2017 or newer)

Fire Chief Approval

Candidate's Fire Chief (please print): _____

I, the undersigned, am the person authorized to verify the candidate's task book initiation requirements and to initiate State Fire Training task books. I hereby certify under penalty of perjury under the laws of the State of California, that the completion of all requirements to open the task book documented herein are true in every respect. I understand that misstatements, omissions of material facts, or falsification of information or documentation may be cause for rejection.

Signature: _____ Date: _____

Signature Verification

The following individuals have the authority to verify portions of this certification task book using the signature recorded below.

Please print except for the Signature line where a handwritten signature is required.
Add additional signature pages as needed.

Name:		**Name:**	
Job Title:		Job Title:	
Organization:		Organization:	
Signature:		Signature:	
Name:		**Name:**	
Job Title:		Job Title:	
Organization:		Organization:	
Signature:		Signature:	
Name:		**Name:**	
Job Title:		Job Title:	
Organization:		Organization:	
Signature:		Signature:	
Name:		**Name:**	
Job Title:		Job Title:	
Organization:		Organization:	
Signature:		Signature:	
Name:		**Name:**	
Job Title:		Job Title:	
Organization:		Organization:	
Signature:		Signature:	

Job Performance Requirements

The candidate must complete each job performance requirement (JPR) in accordance with the standards of the authority having jurisdiction (AHJ) or the National Fire Protection Association (NFPA), whichever is more restrictive.

When California requirements exceed or require revision to the NFPA standard, the corresponding Office of the State Fire Marshal-approved (OSFM) additions or revisions appear in gray highlight.

All JPRs must be completed within a California fire agency or State Fire Training Accredited Regional Training Program (ARTP).

For JPRs that are not part of a candidate's regular work assignment or are a rare event, the evaluator may develop a scenario or interview that supports the required task and evaluate the candidate to the stated standard.

Each JPR shall be evaluated after the candidate's fire chief initiates the task book.

Fire Apparatus

Preventative Maintenance

1. 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. (NFPA 11.2.1) (CTS 1-1)

   Evaluator Signature: _____ Date Verified: _____

2. Document the visual and operational checks, given maintenance and inspection forms, so that all items are checked for operation and deficiencies are reported. (NFPA 11.2.2) (CTS 1-2)

   Evaluator Signature: _____ Date Verified: _____

Operations

3. 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. (NFPA 11.3.1) (CTS 2-1)

   Evaluator Signature: _____ Date Verified: _____

4. 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. (NFPA 11.3.2) (CTS 2-2)

   Evaluator Signature: _____ Date Verified: _____

5. 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. (NFPA 11.3.3) (CTS 2-3)

   Evaluator Signature: _____ Date Verified: _____

6. 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. (NFPA 11.3.4) (CTS 2-4)

   Evaluator Signature: _____ Date Verified: _____

7. 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. (NFPA 11.3.5) (CTS 2-5)

   Evaluator Signature: _____ Date Verified: _____

8. Operate a fire apparatus using defensive driving techniques, given an assignment and a fire apparatus, so that control of the vehicle is maintained. (NFPA 11.3.6) (CTS 2-6)

   Evaluator Signature: _____ Date Verified: _____

9. 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. (NFPA 11.3.7) (CTS 2-7)

   Evaluator Signature: _____ Date Verified: _____

Pumping Apparatus

Preventative Maintenance

10. 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. (NFPA 12.3.1) (CTS 5-1)

    Evaluator Signature: _____ Date Verified: _____

Operations

11. 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. (NFPA 12.4.1) (CTS 6-1)

    Evaluator Signature: _____ Date Verified: _____

12. 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. (NFPA 12.4.2) (CTS 6-2)

    Evaluator Signature: _____ Date Verified: _____

13. 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. (NFPA 12.4.3) (CTS 6-3)

    Evaluator Signature: _____ Date Verified: _____

14. Produce effective hand lines, given an internal tank, 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. (NFPA 12.4.4) (CTS 6-4)

    Evaluator Signature: _____ Date Verified: _____

15. Produce effective master streams, given an internal tank, 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. (NFPA 12.4.4) (CTS 6-4)

    Evaluator Signature: _____ Date Verified: _____

16. Produce effective hand lines, given a pressurized 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. (NFPA 12.4.4) (CTS 6-4)

    Evaluator Signature: _____ Date Verified: _____

17. Produce effective master streams, given a pressurized 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. (NFPA 12.4.4) (CTS 6-4)

    Evaluator Signature: _____ Date Verified: _____

18. Produce effective hand lines, given a static 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. (NFPA 12.4.4) (CTS 6-4)

    Evaluator Signature: _____ Date Verified: _____

19. Produce effective master streams, given a static 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. (NFPA 12.4.4) (CTS 6-4)

    Evaluator Signature: _____ Date Verified: _____

20. Produce effective hand lines, given a 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. (NFPA 12.4.4) (CTS 6-4)

    Evaluator Signature: _____ Date Verified: _____

21. Produce effective master streams, given a 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. (NFPA 12.4.4) (CTS 6-4)

    Evaluator Signature: _____ Date Verified: _____

22. 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. (NFPA 12.4.5) (CTS 6-5)

    Evaluator Signature: _____ Date Verified: _____

23. Produce a foam fire stream, given foam-producing equipment and manufacturer's specifications and requirements, so that proportioned foam is provided. (NFPA 12.4.6) (CTS 6-6)

    Evaluator Signature: _____ Date Verified: _____

24. 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. (NFPA 12.4.7) (CTS 6-7)

    Evaluator Signature: _____ Date Verified: _____

Completion Requirements

The following requirements must be completed prior to submitting this task book.

Experience

The candidate meets the following experience requirements.

- Have a minimum of one year full-time paid or two years' volunteer or part-time paid experience in a recognized California fire agency with the primary responsibility as a Pumping Apparatus Driver/Operator

Agency	Experience	Start Date	End Date

Position

The candidate meets the position qualifications for this level of certification. The position requirement is met when the applicant fulfills the role of the specific duties as defined by the fire chief.

Updates

The candidate has completed and enclosed all updates to this certification task book released by State Fire Training since its initial publication.

Number of enclosed updates: _____

Completion Timeframe

The candidate has completed all requirements documented in this certification task book within five years of its initiation date.

Initiation Date (see Fire Chief signature under **Initiation Requirements**): _____

Review and Approval

Candidate

Candidate (please print): _____

I, the undersigned, am the person applying for certification. I hereby certify under penalty of perjury under the laws of the State of California, that the completion of all requirements documented herein is true in every respect. I understand that misstatements, omissions of material facts, or falsification of information or documentation may be cause for rejection or revocation.

Signature: _____ Date: _____

Fire Chief

Candidate's Fire Chief (please print): _____

I, the undersigned, am the person authorized to verify the candidate's qualifications for certification. I hereby certify under penalty of perjury under the laws of the State of California, that the completion of all requirements documented herein are true in every respect. I understand that misstatements, omissions of material facts, or falsification of information or documentation may be cause for rejection.

Signature: _____ Date: _____