



Aerial Apparatus Operations

Course Plan

Course Details

- Certification:** Aerial Apparatus Driver/Operator (2017)
- CTS Guide:** Fire Apparatus Driver/Operator (2017)
- Description:** This course provides the knowledge and skills needed to operate and perform preventive maintenance on an aerial apparatus. Topics include routine testing, inspections, and servicing functions on systems and components unique to an aerial apparatus; maneuvering, positioning, and stabilizing an aerial apparatus; maneuvering, positioning, and lowering the aerial device; and deploying and operating an elevated master stream.
- Designed For:** Personnel who drive and operate a fire department aerial 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.)
- 1A: Fire Apparatus Driver/Operator (2008 or newer)
- One of the following driver’s licenses: Class C fire fighter endorsed, Commercial A, or Commercial B
- Minimum four hours driving an aerial apparatus
- Standard:** Complete all skills, activities, and tests
- Complete the summative test with a minimum score of 80%
- Hours (Total):** 40 hours (20 lecture / 20 application)
- Maximum Class Size:** 30
- Instructor Level:** One primary instructor and sufficient assistant instructors to meet skills ratio requirements
- Instructor/Student Ratio:** 1:30 (Lecture) / 1:10 (Application)
- Restrictions:** Sufficient fire apparatus and space to accommodate classroom and skills training
- SFT Designation:** CFSTES

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Required Resources

Instructor Resources

To teach this course, instructors need:

- *Fire Apparatus Driver/Operator: Pump, Aerial, Tiller, and Mobile Water Supply* (Jones & Bartlett, current edition)
or
Pumping and Aerial Apparatus Driver/Operator Handbook, (IFSTA, current edition)
- Maintenance and inspection forms
- Manufacturer's specifications and requirements

Online Instructor Resources

The following instructor resources are available online at

<https://osfm.fire.ca.gov/divisions/state-fire-training/cfstes-professional-certification/>:

- Aerial Apparatus Operations required activities
 - Activity 3-1: Maneuver and Position an Aerial Apparatus
 - Activity 3-2: Stabilize an Aerial Apparatus
 - Activity 3-3: Maneuver and Position an Aerial from Each Control Station
 - Activity 3-4: Lower an Aerial Using the Emergency Operation System
 - Activity 3-5: Deploy and Operate Using an Elevated Master Stream

Student Resources

To participate in this course, students need:

- *Fire Apparatus Driver/Operator: Pump, Aerial, Tiller, and Mobile Water Supply* (Jones & Bartlett, current edition)
or
Pumping and Aerial Apparatus Driver/Operator Handbook, (IFSTA, current edition)
- Personal protective equipment

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
- Qualified assistant (as needed)
- Sufficient aerial apparatus to accommodate the number of students in the class
 - Recommend at least 30 minutes of drive time per student across Topics 3-1 through 3-5

- Tools and equipment for inspection and testing
- Personal protective equipment (students)
- Pressurized water source
- Facility and/or location with space sufficient to accommodate maneuvering the apparatus and deploying the aerial, stabilizing the apparatus and transferring power, maneuvering, stabilizing, and lowering the aerial device, deploy and operate an elevated master stream

Time Table

Segment	Lecture	Application	Unit Total
Unit 1: Introduction			
Topic 1-1: Orientation and Administration	0.5	0.0	
Topic 1-2: Aerial Apparatus Driver/Operator Certification	0.5	0.0	
Unit 1 Totals	1.0	0.0	1.0
Unit 2: Preventative Maintenance			
Topic 2-1: Perform Visual and Operation Checks	6.0	1.0	
Unit 2 Totals	6.0	1.0	7.0
Unit 3: Operations			
Topic 3-1: Maneuver and Position an Aerial Apparatus	4.0	*	
Topic 3-2: Stabilize an Aerial Apparatus	1.5	*	
Topic 3-3: Maneuver and Position an Aerial Device from Each Control Station	3.5	*	
Topic 3-4: Lower an Aerial Device Using the Emergency Operating System	2.0	*	
Topic 3-5: Deploy and Operate an Elevated Master Stream	2.0	*	
Unit 3 Totals	13.0	18.0	
Summative Assessment			
Determined by AHJ or educational institution	TBD	1.0	1.0
Skills Practice (Lab / Sets and Reps)			
Determined by AHJ or educational institution	TBD	TBD	TBD
Course Totals	20.0	20.0	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 3-1 through 3-5.

Time Table Key

1. The Time Table 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. = .25 / 30 min. = .50 / 45 min. = .75 / 60 min. = 1.0.
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: Aerial Apparatus Driver/Operator Certification

Terminal Learning Objective

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

Enabling Learning Objectives

1. Identify the prerequisites for certification
 - OSFM certified Fire Fighter 1
 - 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.*)
 - and**
 - Valid Class C Firefighter Endorsed **or** Commercial A **or** Commercial B driver’s license (per California Vehicle Code, Section 12804.11)
2. Identify the courses required for certification
 - 1A: Fire Apparatus Driver/Operator (2008 or newer)
 - 1C: Aerial Apparatus Operations (2008 or newer)
3. Identify the exams required for certification
 - No exams outside of class testing
4. Identify the task book requirements for certification
 - Aerial Apparatus Driver/Operator Certification Task Book (2017)
5. Identify the experience requirements for certification (one of the following)
 - A minimum of one year full-time paid experience in a California fire department with the primary responsibility as an aerial apparatus driver/operator
 - A minimum of two years volunteer or part-time paid experience in a California fire department with the primary responsibility as an aerial apparatus driver/operator
6. Identify the position requirements for certification
 - Appointed to the rank or position of Fire Apparatus Driver/Operator (performing in an acting capacity does not qualify)
7. Describe the certification task book process
8. Describe the certification examination process
 - Not applicable

Discussion Questions

1. Determined by instructor

Application

1. Determined by instructor

Instructor Notes

1. None

Unit 2: Preventative Maintenance

Topic 2-1: Performing and Documenting Visual and Operation Checks

Terminal Learning Objective

At the end of this topic a student, given an aerial apparatus, tools and equipment, maintenance and inspection forms, manufacturer specifications and requirements, and policies and procedures of the jurisdiction, will be able to perform and document routine tests, inspections, and servicing functions on the systems and components unique to an aerial apparatus to verify their operational readiness.

Enabling Learning Objectives

1. Identify manufacturer specifications and requirements
2. Identify AHJ policies and procedures
 - Frequency
 - Standard
 - Documentation requirements
3. Identify vehicle systems and components
 - Battery(ies)
 - Braking system
 - Coolant system
 - Electrical system
 - Fuel
 - Hydraulic fluids
 - Oil
 - Tires
 - Steering system
 - Belts
 - Tools, appliances, and equipment
 - Built-in safety features
4. Describe systems and components unique to an aerial apparatus
 - Aerial electrical systems
 - Aerial hydraulic systems
 - Aerial safety systems
 - Aerial ladder
 - Aerial waterway
 - Breathing air systems
 - Cable systems (if applicable)
 - Communication systems
 - Slides and rollers
 - Stabilizing systems
5. Use tools and equipment
6. Inspect aerial apparatus and components
7. Recognize system problems and out-of-service criteria

8. Correct any deficiency noted according to policies and procedures and/or manufacturer specifications and requirements

Discussion Questions

1. How often should you perform maintenance and inspections on an aerial apparatus?
2. What issues will take an aerial device out of service?
3. How often is your aerial ladder recertified? By whom?

Application

1. Given an aerial apparatus and inspection forms, divide students into small groups, have each group perform an aerial apparatus inspection and present their findings.

Instructor Notes:

1. Bring materials for the Application.

CTS Guide Reference: 6-1

Unit 3: Operations

Topic 3-1: Maneuvering and Positioning an Aerial Apparatus

Terminal Learning Objective

At the end of this topic a student, given an aerial apparatus, an incident location, a situation description, and an assignment will be able to maneuver and position an aerial apparatus for correct aerial device deployment.

Enabling Learning Objectives

1. Describe uses of an aerial device
2. Identify capabilities and limitations of aerial devices
 - Reach
 - Tip load
 - Angle of inclination
3. Describe the effects of topography, ground, and weather conditions on deployment
4. Describe aerial apparatus placement options
5. Identify communication needs between aerial driver/operator and crew
6. Determine load limit of the aerial device
 - Read and understand an aerial ladder load chart
7. Determine a correct position for the apparatus
8. Maneuver the apparatus into the correct position
9. Avoid obstacles to operations

Discussion Questions

1. What considerations go into stabilizer deployment?
2. How should an aerial apparatus be placed at a/an _____ incident?
3. What is the maximum degree of slope allowable to maintain full aerial capabilities?
4. Can you operate below grade? If yes, how far?

Application

1. Activity 3-1: Maneuver and Position an Aerial Apparatus

Instructor Notes:

1. None

CTS Guide Reference: 7-1

Topic 3-2: Stabilizing an Aerial Apparatus

Terminal Learning Objective

At the end of this topic a student, given a positioned aerial apparatus and manufacturer's specifications and requirements, will be able to stabilize an aerial apparatus and transfer power to the aerial hydraulic system in order to deploy the aerial.

Enabling Learning Objectives

1. Describe aerial apparatus hydraulic systems
2. Identify manufacturer's specifications and requirements for stabilization
 - A-frame
 - H configuration
 - Torque box
3. Identify reasons for short jacking and its limitations
4. Describe the effects of topography and ground conditions on stabilization
5. Transfer power from the aerial apparatus engine to the hydraulic system
6. Operate aerial apparatus stabilization devices

Discussion Questions

1. What factors should you consider when placing your stabilizers?
2. What is short jacking? When is it used?
3. Where do you place your chock blocks?
4. Do you need to raise the tires off the ground for proper stabilization?

Application

1. Activity 3-2: Stabilize an Aerial Apparatus

Instructor Notes:

1. None

CTS Guide Reference: 7-2

Topic 3-3: Maneuvering and Positioning an Aerial from Each Control Station

Terminal Learning Objective

At the end of this topic a student, given a stabilized aerial apparatus, an incident location, a situation description, and an assignment, will be able to maneuver and position the aerial from each control station (if applicable) to accomplish the assignment.

Enabling Learning Objectives

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
 - Cable dog locks
 - Holding valves
9. Describe platform stabilization
10. Describe manual rotation and lowering 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 aerial safety procedures
15. Describe operations near electrical hazards and overhead obstructions
16. Raise, rotate, extend, align rungs, and position to a specified location and lock
17. Lock, unlock, retract, rotate, lower, and bed the aerial

Discussion Questions

1. When do you use your overrides in a nonemergency situation?
2. What is your jurisdiction's policy for operating near power lines?
3. How do you decrease ladder fatigue and damage when operating the aerial?
4. What hazards are associated with a supported aerial?
5. What happens if you operate multiple levers at the same time?
6. What is the closed or retracted measurement of your aerial?
7. What ladder position offers the most stability? Why?
8. If there is a hydraulic failure, what holds the ladder in position?

Application

1. Activity 3-3: Maneuver and Position an Aerial from Each Control Station

Instructor Notes:

1. None

CTS Guide Reference: CTS 7-3 and CTS 7-4

Topic 3-4: Lowering an Aerial Using the Emergency Operating System

Terminal Learning Objective

At the end of this topic a student, given a deployed aerial device, will be able to lower an aerial device using the emergency operating system to its bedded position.

Enabling Learning Objectives

1. Describe emergency operating systems
2. Describe manual rotation and lowering systems
3. Describe stabilizing systems
4. Describe system overrides
5. Describe safety systems specific to aerial override systems
6. Identify hazards of using overrides
7. Describe safety procedures specific to the aerial
8. Unlock, retract, rotate, lower, and bed the aerial using the emergency operating system

Discussion Questions

1. Who manages the emergency system overrides?
2. In which situations should you use manual overrides?
3. Which sensors are disabled in override mode?
4. What is an EPU? Where is it? What is its maximum running time?

Application

1. Activity 3-4: Lower an Aerial Device Using the Emergency Operating System

Instructor Notes:

1. None

CTS Guide Reference: CTS 7-4

Topic 3-5: Deploying and Operating an Elevated Master Stream

Terminal Learning Objective

At the end of this topic a student, given a stabilized aerial, a pumping apparatus, a pressurized water source, a master stream device, and a desired flow, will be able to deploy and operate an elevated master stream so the stream is effective and the aerial and master stream device are operated correctly.

Enabling Learning Objectives

1. Describe types of elevated master stream devices and waterways
2. Describe how to operate master stream devices
 - Manually
 - Remotely
3. Describe nozzle reaction
4. Describe range of operation
5. Describe waterway locking systems
6. Identify communication needs between aerial driver/operator, pump driver/operator, and crew
7. Identify weight limitations
8. Describe a removeable/temporary ladder pipe master stream
9. Connect a water supply to a master stream device
10. Deploy a fixed water supply
11. Deploy and control an elevated nozzle manually or remotely

Discussion Questions

1. What is the maximum lateral movement of the stream?
2. What is the sequence to start and stop the flow of water from the nozzle?
3. What are your limitations with water tower operations?
4. Do you wear a ladder belt when operating at the tip of a master stream?
5. What are some friction loss considerations when flowing an aerial master stream?

Application

1. Activity 3-5: Deploy and Operate an Elevated Master Stream

Instructor Notes:

1. None

CTS Guide Reference: 7-5

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.

Maneuver and Position an Aerial Apparatus

Activity 3-1

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 maneuvering and positioning an aerial apparatus for correct aerial deployment.

Standard of Completion

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 deployment. (NFPA 1002 (2017) / Paragraph 6.2.1)

Materials

- Aerial apparatus
- Facility and/or location with space sufficient to accommodate maneuvering the apparatus and deploying the aerial
- Tools and equipment
- PPE (including gloves and helmet)

Instructor Notes

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

Stabilize an Aerial Apparatus

Activity 3-2

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 stabilizing an aerial apparatus and transferring power to the aerial hydraulic system to deploy the aerial.

Standard of Completion

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. (NFPA 1002 (2017) / Paragraph 6.2.2)

Materials

- Aerial apparatus
- Facility and/or location with space sufficient to accommodate stabilizing the apparatus and transferring power
- Tools and equipment
- PPE (including gloves and helmet)

Instructor Notes

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

Maneuver and Position an Aerial from Each Control Station

Activity 3-3

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 maneuvering and positioning the aerial device from each control station (if applicable) to accomplish the assignment.

Standard of Completion

Maneuver and position the aerial device from each control station (*if applicable*), given a *stabilized aerial apparatus*, an incident location, a situation description, and an assignment, so that the aerial is positioned to accomplish the assignment. (NFPA 1002 (2017) / Paragraph 6.2.3)

Materials

- Aerial apparatus
- Facility and/or location with space sufficient to accommodate maneuvering and stabilizing the aerial device
- Qualified assistant (as needed)
- Tools and equipment
- PPE (including gloves and helmet)

Instructor Notes

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

Lower an Aerial Using the Emergency Operating System

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 lowering an aerial to its bedded position using the emergency operating system.

Standard of Completion

Lower an aerial using the emergency operating system, given an aerial, so that the aerial is lowered to its bedded position. (NFPA 1002 (2017) / Paragraph 6.2.4)

Materials

- Aerial apparatus
- Facility and/or location with space sufficient to accommodate lowering the aerial device
- Tools and equipment
- PPE (including gloves and helmet)

Instructor Notes

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

Deploy and Operate an Elevated Master Stream

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 deploying and operating an elevated master stream.

Standard of Completion

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. (NFPA 1002 (2017) / Paragraph 6.2.5)

Materials

- Aerial and pumping apparatus
- Pressurized water source
- Facility and/or location with space sufficient to accommodate deploying and operating an elevated master stream
- Tools and equipment
- PPE (including gloves and helmet)

Instructor Notes

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



Aerial Apparatus Driver/Operator Certification Application Instructions

Overview

The California Office of the State Fire Marshal (OSFM) Aerial Apparatus Driver/Operator Certification is based on NFPA 1002: Standard for Fire Apparatus Driver/Operator Professional Qualifications set by the National Fire Protection Association.

The Aerial Apparatus Driver/Operator Certification Application is for applicants who have completed the Aerial Apparatus Driver/Operator academic training and all other certification requirements.

Certification Requirements

Prerequisites

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

Certifications

- 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.*)

Education

- 1A: Maintenance and Operations (2008 or newer)
- 1C: Aerial Apparatus Operations (2008 or newer)

Certification Task Book

- Pumping Apparatus Driver/Operator Certification Task Book (2017)
or
- Fire Apparatus Driver/Operator – Aerial Apparatus (2014) with required updates (if applicable)

Experience

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

Position

- Be appointed to the rank or position of Fire Apparatus Driver/Operator (*Performing in an acting capacity does not qualify.*)

Application Process

1. Applicant mails the Aerial Apparatus Driver/Operator Certification Application, supporting documentation, and fee(s) to:

State Fire Training
Aerial Apparatus Driver/Operator Certification
2251 Harvard Street, Suite 400
Sacramento, CA 95815

2. State Fire Training conducts an application review.
 - If the applicant does not meet the eligibility requirements, SFT issues a denial.
 - If the applicant meets the eligibility requirements, SFT issues the digital certification(s) through the applicant's SFT User Portal.



Aerial Apparatus Driver/Operator Certification Application

Identification

Full Name:

SFT ID Number:

Phone (Mobile):

Mailing Address:

City, State Zip Code:

Email:

Submission Requirements

Submit documentation to verify completion of the following requirements. You do not need to submit verification for anything issued by State Fire Training (SFT) already documented in your SFT User Portal.

Prerequisites

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

Certifications

- 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.*)

Certification Task Book

- Aerial Apparatus Driver/Operator Certification Task Book (2017)
or
- Fire Apparatus Driver/Operator – Aerial Apparatus (2014) with required updates (if applicable)

Experience

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

Position

- Appointed to the rank or position of Fire Apparatus Driver/Operator (*Performing in an acting capacity does not qualify.*)

Fee

- \$100 (non-refundable)



Aerial Apparatus Driver/Operator Certification Application

Authority

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 all information contained in this application is true in every respect. I understand that misstatements, omissions of material facts, or falsification of information or documents may be cause for rejection. If SFT rejects my application due to falsification of information or documents, I understand that SFT will place a two-year restriction on my ability to reapply for certification.

Applicant Signature: _____ Date: _____

(CAL FIRE Account Code: 0198-####-4143500-4143500014-35405902-59210)

Aerial Apparatus Driver/Operator (NFPA Fire Apparatus Driver/Operator)

Certification Task Book (2017)



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 (2017) which is based on NFPA: 1002 Standard for Fire Apparatus Driver/Operator Professional Qualifications (2017).

Published: Month Year

Published by: State Fire Training, 2251 Harvard Street, Suite 400, Sacramento, CA 95815

Cover photo courtesy of Kevin Williams, CAL FIRE

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

With the exception of the Fire Fighter 1 and 2 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 if 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. Any State Fire Training issued update or addendum is 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 books 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 he or she has 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 he or she has 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 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
2251 Harvard Street, Suite 400
Sacramento, CA 95815

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)

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).

- 1A: Fire Apparatus Driver/Operator (2008 or newer)
- 1C: Aerial Apparatus Operations (2008 or newer)

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

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: _____
Job Title: _____
Organization: _____
Signature: _____

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Job Title: _____
Organization: _____
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Organization: _____
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 *italics*.

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 4.2.1) (CTS 1-1)

Evaluator Signature: _____ Date Verified: _____

2. Document visual and operational checks, given maintenance and inspection forms, so that all items are checked for operation and deficiencies are reported. (NFPA 4.2.2) (CTS 1-2)

Evaluator Signature: _____ Date Verified: _____

Operations

3. Operate a fire apparatus *during emergency and non emergency responses* using defensive driving techniques, given *an apparatus, an assignment*, a predetermined route on a public way that incorporates the maneuvers and features that the driver/operator is expected to encounter during normal operations, and *AH policies and procedures*, so that control of the apparatus is maintained and the *apparatus* is operated in compliance with all applicable state and local laws and *AH* rules and regulations. (NFPA 4.3.1 & 4.3.6) (CTS 2-1)

Evaluator Signature: _____ Date Verified: _____

4. 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 4.3.2) (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 any obstructions. (NFPA 4.3.3) (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 4.3.4) (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 4.3.5) (CTS 2-5)

Evaluator Signature: _____ Date Verified: _____

8. Operate all fixed systems and equipment on a **fire apparatus** not addressed elsewhere in this standard, given **fixed** systems and equipment, manufacturer's specifications **and requirements**, **and AH** 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 4.3.7) (CTS 2-6)

Evaluator Signature: _____ Date Verified: _____

Aerial Apparatus

Preventative Maintenance

9. Perform **and document** the visual and operation checks on the system 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 **FPA** 4.2.1, given a fire department aerial apparatus, and policies and procedures of the jurisdiction, so that the operational readiness of the aerial apparatus is verified. (NFPA 6.1.1) (CTS 6-1)

Evaluator Signature: _____ Date Verified: _____

Operations

10. 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. (NFPA 6.2.1 / OSFM) (CTS 7-1)

Evaluator Signature: _____ Date Verified: _____

11. 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. (NFPA 6.2.2) (CTS 7-2)

Evaluator Signature: _____ Date Verified: _____

12. Maneuver and position the aerial device from each control station **if applicable**, given a **stabilized aerial apparatus**, an incident location, a situation description, and an assignment, so that the aerial is positioned to accomplish the assignment. (NFPA 6.2.3) (CTS 7-3)

Evaluator Signature: _____ Date Verified: _____

13. Lower an aerial using the emergency operating system, given an aerial, so that the aerial is lowered to its bedded position. (NFPA 6.2.4) (CTS 7-4)

Evaluator Signature: _____ Date Verified: _____

14. 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. (NFPA 6.2.5 / OSFM) (CTS 7-5)

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 or two years' volunteer or part-time paid experience in a recognized fire agency in California with the primary responsibility as an Aerial 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.

Supporting Documentation

State Fire Training confirms that there are no supporting documentation requirements for this job function certification.

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 documents 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 documents may be cause for rejection.

Signature: _____ Date: _____

Update 21-1

Justification

In 2021, State Fire Training updated the Fire Apparatus Driver/Operator certification series to align with NFPA 1002: Standard for Fire Apparatus Driver/Operator Professional Qualifications (2017).

Revision/Update

1. NFPA made minor language revisions to the text that does not impact job performance requirement (JPR) intent.
 - No updates required.
2. OSFM has determined that candidates must complete the JPRs from NFPA 1002 (2017); chapter 4 as part of Aerial Apparatus Driver/Operator certification.
 - If you have already completed and validated these JPRs through a previous task book, show that task book to your evaluator and have them sign off on the appropriate JPRs below.
 - If you have not completed and validated these JPRs through a previous task book, complete and validate them through this update.

Additional Requirements

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 1002 (2017); 4.2.1) (CTS 1-1)

Evaluator Signature: _____ Date Verified: _____

2. Document visual and operational checks, given maintenance and inspection forms, so that all items are checked for operation and deficiencies are reported. (NFPA 1002 (2017); 4.2.2) (CTS 1-2)

Evaluator Signature: _____ Date Verified: _____

Fire Apparatus Operations

3. Operate a fire apparatus **during emergency and non emergency responses** using defensive driving techniques, given **an apparatus, an assignment**, a predetermined route on a public way that incorporates the maneuvers and features that the driver/operator is expected to encounter during normal operations, and **AH policies and procedures**, so that control of the apparatus is maintained and the **apparatus** is operated in compliance with all applicable state and local laws and **AH** rules and regulations. (NFPA 1002 (2017); 4.3.1 & 4.3.6) (CTS 2-1)

Evaluator Signature: _____ Date Verified: _____

4. 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. (NFPA1006 (2017); 4.3.2) (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 any obstructions. (NFPA 1002 (2017); 4.3.3) (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 1002 (2017); 4.3.4) (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 1002 (2017); 4.3.5) (CTS 2-5)

Evaluator Signature: _____ Date Verified: _____

8. Operate all fixed systems and equipment on a **fire apparatus** not addressed elsewhere in this standard, given **fixed** systems and equipment, manufacturer's specifications **and requirements**, **and AH** 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 1002 (2017); 4.3.7) (CTS 2-6)

Evaluator Signature: _____ Date Verified: _____