



DEPARTMENT OF FORESTRY AND FIRE PROTECTION
OFFICE OF THE STATE FIRE MARSHAL
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Date: July 8, 2022

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

From: Chris Fowler, Deputy State Fire Marshal III, Supervisor, CAL FIRE
Joe Bunn, Fire Service Training Specialist III, (Retired), CAL FIRE

SUBJECT/AGENDA ACTION ITEM:

Heavy Vehicle Rescue Technician (2021) New Curriculum

Recommended Actions:

Information/discussion

Background Information:

SFT developed the Heavy Vehicle Rescue Technician in alignment with National Fire Protection Association (NFPA) 1006: Standard for Technical Rescue Personnel Professional Qualifications, 2021 edition. This class is designed to allow students to better prepare for an incident involving heavy vehicles (i.e., semi-trailers, busses) and the unique extrication scenarios that are found with vehicles of this type.

Analysis/Summary of Issue Standard:

CTS Guide

- SFT developed a CTS guide for Heavy Vehicle Rescue to document how training standards align with NFPA 1006 (2021).

Course Plan

- SFT developed a full course plan for all emergency personnel who perform heavy vehicle rescue.
- This course incorporates awareness, operations, and technician training based on NFPA 1006 (2021).

- Prerequisites
 - Common Passenger Vehicle Rescue (2021) **or** Vehicle Extrication (2015) **or** Auto Extrication (1996)
- Course length is 24 hours (6.5 lecture / 17.5 application)
- Maximum class size set at 32.
- Instructor-to-student ratio set at 1:32 for lecture and 1:8 for application.
- All instructors counted toward student ratios, including application components, must be SFT Registered Heavy Vehicle Rescue Technician Instructors.

Instructor Task Book (Instructor Requirements)

- Be an OSFM certified Instructor 1, Training Instructor I, or Fire Instructor I
- Be an OSFM certified Fire Fighter 1
- Complete Common Passenger Rescue Vehicle Technician (2021) or Vehicle Extrication (2015) or Auto Extrication (1996)
- Complete Heavy Vehicle Rescue Technician (2021)
- Complete the Heavy Vehicle Rescue Technician (2021) Instructor Task Book
- Have a minimum of three (3) years' full-time or six (6) years' part-time/volunteer suppression/rescue experience within a recognized fire agency in California
- Provide a letter signed by their Fire Chief or authorized designee that verifies qualification to deliver Common Passenger Vehicle Rescue Technician (2021) training

Training Record

- Created a Training Record for students to use as verification of skills practiced and completed during the course.



HEAVY VEHICLE RESCUE TECHNICIAN (2021) Implementation Plan

Issued: XXXX 2023

OVERVIEW

This document is intended to provide information for all State Fire Training (SFT) stakeholders on the new Heavy Vehicle Rescue Technician (2021) curriculum. Stakeholders are encouraged to study this information carefully and seek clarification from SFT if questions arise.

The Heavy Vehicle Rescue Technician (2021) curriculum will be phased in for the California Fire Service Training and Education Program (FSTEP). SFT developed a CTS guide, course plan, student training record, and instructor task book based on the current National Fire Protection Association (NFPA) Standard, NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021). The curriculum documents are now available on the SFT website.

IMPLEMENTATION

This is a new curriculum. All candidates entering the SFT system should enroll in Heavy Vehicle Rescue Technician (2021) and comply with the new requirements.

New Curriculum	Hours
Heavy Vehicle Rescue Technician (2021)	24 hours

Heavy Vehicle Rescue Technician (2021) Curriculum.....January 1, 2023

INSTRUCTOR REQUIREMENTS

Instructor Registration January 1, 2023

Instructors for the Heavy Vehicle Rescue Technician (2021) course must meet the SFT requirements for Registered Instructor and have appropriate education with practical experience relating to the specific course content.

New Heavy Vehicle Rescue Technician (2021) Registered Instructors shall:

- Be an SFT Registered Instructor
- Be an OSFM certified Fire Fighter 1
- Complete Common Passenger Rescue Vehicle Technician (2021) or Vehicle Extrication (2015) or Auto Extrication (1996)
- Complete Heavy Passenger Vehicle Rescue Technician (2021)
- Complete the Heavy Vehicle Rescue Technician (2021) Instructor Task Book
- Have a minimum of three (3) years' full-time or six (6) years' part-time/volunteer suppression/rescue experience within a recognized fire agency in California

- Provide a letter signed by their Fire Chief or authorized designee that verifies qualification to deliver Common Passenger Vehicle Rescue Technician (2021) training

Instructor Task Book and Application

Instructor candidates shall complete a comprehensive instructor task book that covers all job performance requirements (JPRs) contained in the NFPA professional standard and CTS guide. The candidate's Fire Chief or authorized designee on file will verify the candidate's occupational experience by signing the task book upon completion.

POTENTIAL AGENCY IMPACTS

Fire agencies desiring to use the Heavy Vehicle Rescue Technician (2021) curriculum as a requirement for their recruitment/promotion activities need to review the 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 course 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 Heavy Vehicle Rescue Technician curriculum and discuss potential impacts with their advisory committees.

Heavy Vehicle Rescue

(NFPA 1006: Heavy Vehicle Rescue
Awareness/Operations/Technician)

Certification Training Standards Guide (2021)



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

Heavy Vehicle Rescue

Certification Training Standards Guide (2021)

Publication Date: Month Year

This CTS guide utilizes the following NFPA standards to provide the qualifications for State Fire Training's Heavy Vehicle Rescue (2021) certification:

- NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)

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 San Bernardino County Fire Department.

Published by State Fire Training.

Table of Contents

Acknowledgements.....	1
How to Read a CTS Guide	2
Heavy Vehicle Rescue	4
Section 1: Awareness.....	4
1-1: Sizing-up a Heavy Vehicle Rescue Incident	4
1-2: Recognizing Incident Hazards and Initiating Isolation Procedures	6
1-3: Recognizing the Need for Technical Rescue Resources	7
1-4: Supporting an Operations- or Technician-level Incident.....	8
Section 2: Operations.....	9
2-1: Creating an Incident Action Plan	9
2-2: Establishing Fire Protection	10
2-3: Stabilizing a Heavy Vehicle Resting in its Position of Use in a Flat Stable Environment	11
2-4: Stabilizing a Heavy Vehicle Resting in its Roof or Side	12
2-5: Isolating Potentially Harmful Energy Sources	13
2-6: Mitigating Hazards Associated with Alternative Fuel Vehicles	14
2-7: Determining Heavy Vehicle Access and Egress Points	15
2-8: Creating Access and Egress Openings for Rescue from a Heavy Vehicle Resting on its Wheels	16
2-9: Creating Access and Egress Openings for Rescue from a Heavy Vehicle Resting on its Roof or Side.....	18
2-10: Disentangling Victim(s).....	20
2-11: Removing a Packaged Victim to a Designated Safe Area	21
2-12: Terminating a Heavy Vehicle Incident.....	22
Section 3: Technician	23
3-1: Creating an Incident Action Plan to Access or Remove Occupants from a Multi-hazard Configuration or Environment	23
3-2: Stabilizing a Heavy Vehicle to Access or Remove Occupants from a Multi-hazard Configuration or Environment	25
3-3: Lifting a Heavy Vehicle.....	27
3-4: Coordinating Heavy Equipment to Lift, Move, or Stabilize a Heavy Vehicle.....	28
3-5: Creating Access and Egress Openings for Rescue from a Heavy Vehicle to Access or Remove Occupants from a Multi-hazard Configuration or Environment	29
3-6: Disentangling Victim(s) from a Heavy Vehicle Resting in a Multi-hazard Configuration or Environment.....	31
3-7: Removing a Packaged Victim to a Designated Safe Area	32

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- Andrew Henning, Assistant Deputy Director: Fire and Life Safety, State Fire Training, Code Development and Analysis
- (Vacant), Chief of State Fire Training
- John Binaski, Chair, Statewide Training and Education Advisory Committee (STEAC); Chief, Clovis Fire Department

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- John Smith, Captain, Los Angeles City Fire Department
- Robert Stine, Training Manager, San Bernardino County Fire Department

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).

Heavy Vehicle Rescue

Section 1: Awareness

1-1: Sizing-up a Heavy Vehicle Rescue Incident

Authority

1. NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)
 - Paragraph 9.1.1

Job Performance Requirement

Size up a heavy vehicle rescue incident, given background information and applicable reference materials, so that the scope of the rescue is determined, the number of victims is identified, the last reported location of all the victims is established, witnesses and reporting parties are identified and interviewed, resource needs are assessed, primary search parameter are identified, and information required to develop an initial incident action plan is obtained.

Requisite Knowledge

1. *Identify* types of reference materials and their uses
2. *Identify* availability and capability of the resources
3. *Describe* elements of an incident action plan and related information
4. *Describe* relationship of the size-up to the incident management system
5. *Describe* information gathering techniques and how that information is used in the size-up process
6. *Describe* basic search criteria for heavy vehicle rescue incidents

Requisite Skills

1. Read technical rescue reference materials
2. Gather information
3. Use interview techniques
4. Relay information
5. Use information-gathering sources

Content Modification

Block	Modification	Justification

Cross Reference

Course Plan	Training Record	Task Book
Heavy Vehicle Rescue Technician (2021) <ul style="list-style-type: none">• Topic 2-1	Heavy Vehicle Rescue Technician (2021) <ul style="list-style-type: none">• Skill 1	Heavy Vehicle Rescue Technician (2021) Instructor Task Book <ul style="list-style-type: none">• JPR 1

Draft

1-2: Recognizing Incident Hazards and Initiating Isolation Procedures

Authority

1. NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)
 - Paragraph 9.1.2

Job Performance Requirement

Recognize incident hazards and initiate isolation procedures, given scene control barriers, personal protective equipment (PPE), requisite equipment, and available specialized resources, so that all hazards are identified; resource application fits the operational requirements; hazard isolation is considered; risks to rescuers, bystanders, and victims are minimized; and rescue time constraints are taken into account.

Requisite Knowledge

1. *Identify* resource capabilities and limitations
2. *Identify* types and nature of incident hazards
3. *Describe* equipment types and their uses
4. *Describe* isolation terminology, methods, equipment, and implementation
5. *Identify* operational requirement concerns
6. *Identify* common types of rescuer and victim risks
7. *Describe* risk/benefit analysis methods and practices
8. *Describe* hazard recognition, isolation methods, and terminology
9. *Describe* methods for controlling access to the scene
10. *Identify* types of technical references

Requisite Skills

1. Identify resource capabilities and limitations
2. Identify incident hazards
3. Assess potential hazards to rescuers and bystanders
4. Place scene control barriers
5. Operate control and mitigation equipment

Content Modification

Block	Modification	Justification

Cross Reference

Course Plan	Training Record	Task Book
Heavy Vehicle Rescue Technician (2021) <ul style="list-style-type: none">• Topic 2-5	Heavy Vehicle Rescue Technician (2021) <ul style="list-style-type: none">• Skill 5	Heavy Vehicle Rescue Technician (2021) Instructor Task Book <ul style="list-style-type: none">• JPR 1

1-3: Recognizing the Need for Technical Rescue Resources

Authority

1. NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)
 - Paragraph 9.1.3

Job Performance Requirement

Recognize the need for technical rescue resources at an operations- or technical-level incident, given AHJ guidelines, so that the need for additional resources is identified, the response system is initiated, the scene is secured and rendered safe until additional resources arrive, and awareness level personnel are incorporated into the operational plan.

Requisite Knowledge

1. *Describe* operational protocols
2. *Identify* specific planning forms
3. *Identify* types of incidents common to the AHJ
4. *Identify* hazards
5. *Describe* incident support operations and resources
6. *Describe* safety measures

Requisite Skills

1. Apply operational protocols
2. Select specific planning forms based on the types of incidents
3. Identify and evaluate various types of hazards within the AHJ
4. Request support and resources
5. Determine required safety measures

Content Modification

Block	Modification	Justification

Cross Reference

Course Plan	Training Record	Task Book
Heavy Vehicle Rescue Technician (2021) <ul style="list-style-type: none">• Topic 2-3	Heavy Vehicle Rescue Technician (2021) <ul style="list-style-type: none">• Skill 3	Heavy Vehicle Rescue Technician (2021) Instructor Task Book <ul style="list-style-type: none">• JPR 1

1-4: Supporting an Operations- or Technician-level Incident

Authority

1. NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)
 - Paragraph 9.1.4

Job Performance Requirement

Support an operations- or technician-level incident, given an incident, an assignment, an incident action plan, and resources from the tool kit, so that the assignment is carried out, progress is reported to command, environmental concerns are managed, personnel rehabilitation is facilitated, and the incident action plan is supported.

Requisite Knowledge

1. *Describe* AHJ operational protocols
2. *Identify* hazard recognition
3. *Describe* incident management
4. *Identify* PPE selection
5. *Describe* resource selection and use
6. *Identify* scene support requirements

Requisite Skills

1. Apply operational protocols
2. Function within an incident management system
3. Follow and implement an incident action plan
4. Report task progress status to a supervisor or incident command

Content Modification

Block	Modification	Justification

Cross Reference

Course Plan	Training Record	Task Book
Heavy Vehicle Rescue Technician (2021) <ul style="list-style-type: none">• Topic 2-4	Heavy Vehicle Rescue Technician (2021) <ul style="list-style-type: none">• Skill 4	Heavy Vehicle Rescue Technician (2021) Instructor Task Book <ul style="list-style-type: none">• JPR 1

Section 2: Operations

2-1: Creating an Incident Action Plan

Authority

1. NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)
 - Paragraph 9.2.1

Job Performance Requirement

Create an incident action plan for a heavy vehicle incident, and conduct an initial and ongoing size-up, given agency guidelines, planning forms, and an operations-level vehicle incident or simulation, so that a standard approach is used during training and operational scenarios, emergency situation hazards are identified, isolation methods and scene security measures are considered, fire suppression and safety measures are identified, vehicle stabilization needs are evaluated, and resource needs are identified and documented for future use.

Requisite Knowledge

1. *Describe* operational protocols
2. *Identify* specific planning forms
3. *Identify* types of *heavy* vehicles common to the AHJ boundaries
4. *Identify* vehicle hazards
5. *Describe* incident support operations and resources
6. *Describe* vehicle anatomy
7. *Describe* fire suppression and safety measures

Content Modification

Block	Modification	Justification
RK3	Added "heavy".	Added to distinguish between vehicle types. Common passenger vehicles are covered elsewhere.

Cross Reference

Course Plan	Training Record	Task Book
Heavy Vehicle Rescue Technician (2021) <ul style="list-style-type: none">• Topic 2-1	Heavy Vehicle Rescue Technician (2021) <ul style="list-style-type: none">• Skill 2	Heavy Vehicle Rescue Technician (2021) Instructor Task Book <ul style="list-style-type: none">• JPR 1

2-2: Establishing Fire Protection

Authority

1. NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)
 - Paragraph 9.2.2

Job Performance Requirement

Establish fire protection, given an extrication incident and fire control support, so that fire and explosion potential is managed and fire hazards and rescue objectives are communicated to the fire suppression crew.

Requisite Knowledge

1. *Identify* types of fire and explosion hazards
2. *Describe* incident management system
3. *Describe* types of extinguishing devices
4. *Describe* agency policies and procedures
5. *Identify* types of flammable and combustible substances and types of ignition sources
6. *Describe* extinguishment or control options

Requisite Skills

1. Identify fire and explosion hazards
2. Operate within the incident management system
3. Use extinguishing devices
4. Apply fire control strategies
5. Manage ignition potential

Content Modification

Block	Modification	Justification

Cross Reference

Course Plan	Training Record	Task Book
Heavy Vehicle Rescue Technician (2021) <ul style="list-style-type: none">• Topic 2-1 (RK2)• Topic 2-6 (RK1, RK3 – RK6)	Heavy Vehicle Rescue Technician (2021) <ul style="list-style-type: none">• Skill 6	Heavy Vehicle Rescue Technician (2021) Instructor Task Book <ul style="list-style-type: none">• JPR 1

2-3: Stabilizing a Heavy Vehicle Resting in its Position of Use in a Flat Stable Environment

Authority

1. NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)
 - Paragraph 9.2.3

Job Performance Requirement

Stabilize a heavy vehicle that has come to rest in its position of use on the road or other stable surface, given a vehicle tool kit and PPE, so that the vehicle is prevented from moving during the rescue operations; entry, exit, and tool placement points are not compromised; anticipated rescue activities will not compromise vehicle stability; selected stabilization points are structurally sound; stabilization equipment can be monitored; and the risk to rescuers is minimized.

Requisite Knowledge

1. *Describe* types and rated capacities of stabilization devices
2. *Describe* mechanism of heavy vehicle movement
3. *Identify* types of stabilization points
4. *Identify* types of stabilization surfaces
5. *Describe* AHJ policies and procedures
6. *Describe* types of vehicle construction components as they apply to stabilization

Requisite Skills

1. Select, operate, and monitor stabilization devices

Content Modification

Block	Modification	Justification

Cross Reference

Course Plan	Training Record	Task Book
Heavy Vehicle Rescue Technician (2021) <ul style="list-style-type: none">• Topic 3-1	Heavy Vehicle Rescue Technician (2021) <ul style="list-style-type: none">• Skill 10• Skill 11• Skill 12• Skill 13• Skill 31• Skill 32	Heavy Vehicle Rescue Technician (2021) Instructor Task Book <ul style="list-style-type: none">• JPR 2

2-4: Stabilizing a Heavy Vehicle Resting in its Roof or Side

Authority

1. Office of the State Fire Marshal

Job Performance Requirement

Stabilize a heavy vehicle that has come to rest in its roof or side, given a vehicle tool kit and PPE, so that the vehicle is prevented from moving during the rescue operations; entry, exit, and tool placement points are not compromised; anticipated rescue activities will not compromise vehicle stability; selected stabilization points are structurally sound; stabilization equipment can be monitored; and the risk to rescuers is minimized.

Requisite Knowledge

1. Describe types and rated capacities of stabilization devices
2. Describe mechanism of heavy vehicle movement
3. Identify types of stabilization points
4. Identify types of stabilization surfaces
5. Describe AHJ policies and procedures
6. Describe types of vehicle construction components as they apply to stabilization

Requisite Skills

1. Select, operate, and monitor stabilization devices

Content Modification

Block	Modification	Justification
CTS	Added new standard.	NFPA for Heavy Vehicle Rescue only addresses a vehicle on its wheels or in a multi-hazard configuration. Cadre requested this addition to mirror requirements in Common Passenger Vehicle standard.

Cross Reference

Course Plan	Training Record	Task Book
Heavy Vehicle Rescue Technician (2021) <ul style="list-style-type: none"> • Topic 3-1 	Heavy Vehicle Rescue Technician (2021) <ul style="list-style-type: none"> • Skill 10 • Skill 11 • Skill 12 • Skill 13 • Skill 14 • Skill 31 • Skill 32 	Heavy Vehicle Rescue Technician (2021) Instructor Task Book <ul style="list-style-type: none"> • JPR 2

2-5: Isolating Potentially Harmful Energy Sources

Authority

1. NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)
 - Paragraph 9.2.4

Job Performance Requirement

Isolate potentially harmful energy sources, including propulsion power, restraint systems, and construction materials, given a heavy vehicle, vehicle tool kit, and PPE, so that all hazards are identified, systems are managed, beneficial system use is evaluated, and hazards to rescue personnel and victims are minimized.

Requisite Knowledge

1. *Identify* types and uses of PPE
2. *Identify* types of energy sources
3. *Describe* system isolation methods
4. *Describe* specialized system features
5. *Describe* tools for disabling hazards
6. *Describe* policies and procedures of the AHJ

Requisite Skills

1. Select and use hazard-specific PPE
2. Identify hazards
3. Operate beneficial systems in support of tactical objectives
4. Operate tools and devices for securing and disabling hazards

Content Modification

Block	Modification	Justification

Cross Reference

Course Plan	Training Record	Task Book
Heavy Vehicle Rescue Technician (2021) <ul style="list-style-type: none">• Topic 2-7	Heavy Vehicle Rescue Technician (2021) <ul style="list-style-type: none">• Skill 7• Skill 8• Skill 9	Heavy Vehicle Rescue Technician (2021) Instructor Task Book <ul style="list-style-type: none">• JPR 1

2-6: Mitigating Hazards Associated with Alternative Fuel Vehicles

Authority

1. Office of the State Fire Marshal

Job Performance Requirement

Identify and mitigate hazards associated with alternative fuel vehicles, given an alternative fuel heavy vehicle, heavy vehicle tool kit, and PPE, so that all hazards are identified and isolated, systems are managed, beneficial system use is evaluated, and hazards to rescue personnel and victims are minimized.

Requisite Knowledge

1. Identify an “alternative” fuel vehicle
2. Identify alternative fuel sources
3. Identify types of alternative fuel heavy vehicles in the AHJ
4. Identify hazards associated with alternative fuel vehicles
5. Describe how to isolate hazards
6. Describe policies and procedures of the AHJ

Requisite Skills

1. None

Content Modification

Block	Modification	Justification
CTS	Added a new standard.	NFPA 1006 does not address alternative fuel vehicles, but they are common in California and require specialized knowledge and skills in a rescue environment.

Cross Reference

Course Plan	Training Record	Task Book
Heavy Vehicle Rescue Technician (2021) <ul style="list-style-type: none">• Topic 2-8	N/A	Heavy Vehicle Rescue Technician (2021) Instructor Task Book <ul style="list-style-type: none">• JPR 1

2-7: Determining Heavy Vehicle Access and Egress Points

Authority

1. NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)
 - Paragraph 9.2.5

Job Performance Requirement

Determine the heavy vehicle access and egress points, given the structural and damage characteristics and potential victim location(s), so that the victim location(s) is identified; access and egress points for victims, rescuers, and equipment are designated; flows of personnel, victims, and equipment are identified; existing entry points are used; time constraints are factored; selected entry and egress points do not compromise vehicle stability; chosen points can be protected; equipment and victim stabilization are initiated; and AHJ safety and emergency procedures are followed.

Requisite Knowledge

1. *Describe* heavy vehicle construction/features
2. *Identify* access and egress points
3. *Identify* routes and hazards operating systems
4. *Describe* AHJ standard operating procedure
5. *Describe* emergency evacuation and safety signals

Requisite Skills

1. Identify access and egress points and probable victim locations
2. Assess and evaluate impact of vehicle stability on the victim

Content Modification

Block	Modification	Justification

Cross Reference

Course Plan	Training Record	Task Book
Heavy Vehicle Rescue Technician (2021) <ul style="list-style-type: none">• Topic 5-1	Heavy Vehicle Rescue Technician (2021) <ul style="list-style-type: none">• Skill 22	Heavy Vehicle Rescue Technician (2021) Instructor Task Book <ul style="list-style-type: none">• JPR 3

2-8: Creating Access and Egress Openings for Rescue from a Heavy Vehicle Resting on its Wheels

Authority

1. NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)
 - Paragraph 9.2.6

Job Performance Requirement

Create access and egress openings for rescue from a heavy vehicle on its wheels, given a vehicle tool kit, specialized tools and equipment, PPE, and an assignment, so that the movement of rescuers and equipment complements victim care and removal, an emergency escape route is provided, the technique chosen is expedient, victim and rescuer protection is afforded, and vehicle stability is maintained.

Requisite Knowledge

1. *Describe* heavy vehicle construction and features
2. *Describe* electrical, mechanical, hydraulic, pneumatic, and alternative access and egress equipment
3. *Identify* points and routes of ingress and egress
4. *Identify* techniques and hazards
5. *Describe* agency policies and procedures
6. *Describe* emergency evacuation and safety signals

Requisite Skills

1. Identify heavy vehicle construction features
2. Select and operate tools and equipment
3. Apply tactics and strategy based on assignment
4. Apply victim care and stabilization devices
5. Perform hazard control based on techniques selected
6. Demonstrate safety procedures and emergency evacuation signals

Content Modification

Block	Modification	Justification

Cross Reference

Course Plan	Training Record	Task Book
<p>Heavy Vehicle Rescue Technician (2021)</p> <ul style="list-style-type: none">• Topic 5-1 (RK1, RK3, RK6, RS1)• Topic 5-2 (RK3, RK4, RK5, RS8, RS9, RS11, RS12)• Topic 6-2 (RS10)	<p>Heavy Vehicle Rescue Technician (2021)</p> <p>R = Required O = Optional</p> <ul style="list-style-type: none">• Skill 23 (R)• Skill 24 (R)• Skill 25 (R)• Skill 26 (R)• Skill 27 (R)• Skill 28 (R)• Skill 29 (R)• Skill 30 (R)• Skill 40 (O)• Skill 41 (O)	<p>Heavy Vehicle Rescue Technician (2021) Instructor Task Book</p> <ul style="list-style-type: none">• JPR 3

2-9: Creating Access and Egress Openings for Rescue from a Heavy Vehicle Resting on its Roof or Side

Authority

1. Office of the State Fire Marshal

Job Performance Requirement

Create access and egress openings for rescue from a heavy vehicle on its roof or side, given a vehicle tool kit, specialized tools and equipment, PPE, and an assignment, so that the movement of rescuers and equipment complements victim care and removal, an emergency escape route is provided, the technique chosen is expedient, victim and rescuer protection is afforded, and vehicle stability is maintained.

Requisite Knowledge

1. Describe heavy vehicle construction and features
2. Describe electrical, mechanical, hydraulic, pneumatic, and alternative access and egress equipment
3. Identify points and routes of ingress and egress
4. Identify techniques and hazards
5. Describe agency policies and procedures
6. Describe emergency evacuation and safety signals

Requisite Skills

1. Identify heavy vehicle construction features
2. Select and operate tools and equipment
3. Apply tactics and strategy based on assignment
4. Apply victim care and stabilization devices
5. Perform hazard control based on techniques selected
6. Demonstrate safety procedures and emergency evacuation signals

Content Modification

Block	Modification	Justification
CTS	Added new standard.	NFPA for Heavy Vehicle Rescue only addresses a vehicle on its wheels or in a multi-hazard configuration. Cadre requested this addition to mirror requirements in Common Passenger Vehicle standard.

Cross Reference

Course Plan	Training Record	Task Book
Heavy Vehicle Rescue Technician (2021) <ul style="list-style-type: none">• Topic 5-1 (RK1, RK3, RK6, RS1)• Topic 5-2 (RK3, RK4, RK5, RS8, RS9, RS11, RS12)• Topic 6-2 (RS10)	Heavy Vehicle Rescue Technician (2021) R = Required O = Optional <ul style="list-style-type: none">• Skill 23 (R)• Skill 24 (R)• Skill 25 (R)• Skill 26 (R)• Skill 27 (R)• Skill 28 (R)• Skill 29 (R)• Skill 30 (R)• Skill 38 (O)• Skill 39 (O)• Skill 40 (O)• Skill 41 (O)	Heavy Vehicle Rescue Technician (2021) Instructor Task Book <ul style="list-style-type: none">• JPR 3

2-10: Disentangling Victim(s)

Authority

1. NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)
 - Paragraph 9.2.7

Job Performance Requirement

Disentangle victim(s), given an operations-level extrication incident, a vehicle tool kit, PPE, and specialized equipment, so that undue victim injury is prevented; victim protection is provided; and stabilization is maintained.

Requisite Knowledge

1. *Describe* tool selection and application
2. *Describe* stabilization systems
3. *Describe* protection methods
4. *Describe* disentanglement points and techniques
5. *Describe* dynamics of disentanglement

Requisite Skills

1. Operate disentanglement tools
2. Initiate protective measures
3. Identify and eliminate points of entrapment
4. Maintain incident stability and scene safety

Content Modification

Block	Modification	Justification

Cross Reference

Course Plan	Training Record	Task Book
Heavy Vehicle Rescue Technician (2021) <ul style="list-style-type: none">• Topic 6-1	Heavy Vehicle Rescue Technician (2021) <ul style="list-style-type: none">• Skill 33• Skill 34	Heavy Vehicle Rescue Technician (2021) Instructor Task Book <ul style="list-style-type: none">• JPR 5

2-11: Removing a Packaged Victim to a Designated Safe Area

Authority

1. NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)
 - Paragraph 9.2.8

Job Performance Requirement

Remove a packaged victim to a designated safe area, as a member of a team, given a victim transfer device, a designated egress route, and PPE, so that the team effort is coordinated, the designated egress route is used, the victim is removed without compromising victim packaging, undue injury is prevented, and stabilization is maintained.

Requisite Knowledge

1. *Describe* patient handling techniques
2. *Describe* types of immobilization, packaging, and transfer devices
3. *Describe* types of immobilization techniques
4. *Describe* uses of immobilization devices

Requisite Skills

1. Use immobilization, packaging, and transfer devices for specific situations
2. Use immobilization techniques
3. Apply medical protocols and safety features to immobilize, package, and transfer
4. Use all techniques for lifting the patient

Content Modification

Block	Modification	Justification

Cross Reference

Course Plan	Training Record	Task Book
Heavy Vehicle Rescue Technician (2021) <ul style="list-style-type: none">• Topic 6-2	Heavy Vehicle Rescue Technician (2021) <ul style="list-style-type: none">• Skill 35• Skill 36	Heavy Vehicle Rescue Technician (2021) Instructor Task Book <ul style="list-style-type: none">• JPR 5

2-12: Terminating a Heavy Vehicle Incident

Authority

1. NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)
 - Paragraph 9.2.9

Job Performance Requirement

Terminate a heavy vehicle incident, given PPE specific to the incident, isolation barriers, and an extrication tool kit, so that rescuers and bystanders are protected during termination operations; the party responsible for the operation, maintenance, or removal of the affected vehicle is notified of any modification or damage created during the extrication process; scene control is transferred to a responsible party; potential or existing hazards are communicated to that responsible party; and command is terminated.

Requisite Knowledge

1. *Describe* PPE characteristics
2. *Identify* hazards and risks
3. *Describe* isolation techniques
4. *Identify* statutory requirements identifying responsible parties
5. *Describe* accountability system use
6. *Describe* reporting methods
7. *Describe* post incident analysis techniques

Requisite Skills

1. Select and use hazard-specific PPE
2. Decontaminate PPE
3. Use barrier protection techniques
4. Collect data and *implement* record keeping/reporting protocols
5. *Conduct* post incident analysis activities

Content Modification

Block	Modification	Justification
RS4	Added "implement".	The verb "collect" didn't apply to "record keeping/reporting protocols".
RS5	Added "conduct".	NFPA did not provide a verb.

Cross Reference

Course Plan	Training Record	Task Book
Heavy Vehicle Rescue Technician (2021) <ul style="list-style-type: none">• Topic 7-1	Heavy Vehicle Rescue Technician (2021) <ul style="list-style-type: none">• Skill	Heavy Vehicle Rescue Technician (2021) Instructor Task Book <ul style="list-style-type: none">• JPR 6

Section 3: Technician

3-1: Creating an Incident Action Plan to Access or Remove Occupants from a Multi-hazard Configuration or Environment

Authority

1. NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)
 - Paragraph 9.3.1

Job Performance Requirement

Create an incident action plan for an incident where a heavy vehicle has come to rest in a configuration or environment where multiple concurrent hazards must be managed to access or remove the occupants, given agency guidelines, planning forms, and a technician-level vehicle incident or simulation, so that a standard approach is used during training and operational scenarios, emergency situation hazards are identified, isolation methods and scene security measures are considered, fire suppression and safety measures are identified, vehicle stabilization needs are evaluated, and resource needs are identified and documented for future use.

Requisite Knowledge

1. *Describe* operational protocols
2. *Identify* specific planning forms
3. *Describe* common heavy vehicles
4. *Describe* heavy vehicle hazards
5. *Describe* incident support operations and resources
6. *Identify* heavy vehicle anatomy
7. *Describe* fire suppression and safety measures

Requisite Skills

1. Apply operational protocols
2. Select specific planning forms based on the position of the heavy vehicle
3. Identify and evaluate various types of common heavy vehicles
4. Request support and resources
5. Identify commercial/heavy vehicle anatomy
6. Determine the required fire suppression crew and safety measures

Content Modification

Block	Modification	Justification

Cross Reference

Course Plan	Training Record	Task Book
Heavy Vehicle Rescue Technician (2021) <ul style="list-style-type: none">• Topic 2-1	Heavy Vehicle Rescue Technician (2021) <ul style="list-style-type: none">• Skill 2	Heavy Vehicle Rescue Technician (2021) Instructor Task Book <ul style="list-style-type: none">• JPR 1

3-2: Stabilizing a Heavy Vehicle to Access or Remove Occupants from a Multi-hazard Configuration or Environment

Authority

1. NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)
 - Paragraph 9.3.2

Job Performance Requirement

Stabilize a heavy vehicle that has come to rest in a configuration or environment where multiple concurrent hazards must be managed to access or remove the occupants, given a vehicle and machinery tool kit and PPE, so that the vehicle is prevented from moving during the rescue operations; entry, exit, and tool placement points are not compromised; anticipated rescue activities will not compromise vehicle stability; selected stabilization points are structurally sound; stabilization equipment can be monitored; and the risk to rescuers is minimized.

Requisite Knowledge

1. *Identify* types and rated capacities of stabilization devices
2. *Describe* mechanism of vehicle movement
3. *Identify* types of stabilization points
4. *Identify* types of stabilization surfaces
5. *Describe* AHJ policies and procedures
6. *Identify* types of heavy vehicle construction components as they apply to stabilization

Requisite Skills

1. Select, operate, and monitor stabilization devices on heavy vehicle

Content Modification

Block	Modification	Justification

Cross Reference

Course Plan	Training Record	Task Book
Heavy Vehicle Rescue Technician (2021) <ul style="list-style-type: none">• Topic 3-1	Heavy Vehicle Rescue Technician (2021) <ul style="list-style-type: none">• Skill 10• Skill 11• Skill 12• Skill 13• Skill 14• Skill 15• Skill 16• Skill 31• Skill 32	Heavy Vehicle Rescue Technician (2021) Instructor Task Book <ul style="list-style-type: none">• JPR 2

3-3: Lifting a Heavy Vehicle

Authority

1. NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)
 - Paragraph 9.3.3

Job Performance Requirement

Lift a heavy vehicle, given a heavy vehicle incident, a vehicle tool kit and PPE, so that unanticipated movement is prevented during the rescue operations; entry, exit, and tool placement points are not compromised; anticipated rescue activities will not compromise vehicle stability; selected lift points are structurally sound; lifting equipment can be monitored; and the risk to rescuers is minimized.

Requisite Knowledge

1. *Describe* types of lifting devices
2. *Describe* mechanism of vehicle movement
3. *Identify* types of lifting points
4. *Identify* types of lifting surfaces
5. *Describe* types of cribbing
6. *Describe* AHJ policies and procedures
7. *Describe* types of vehicle construction components as they apply to lifting

Requisite Skills

1. Deploy and operate lifting devices
2. Deploy cribbing
3. Recognize competent lift points
4. Calculate weights and center of gravity
5. Assess vehicle stability
6. Use tools or systems to prevent unwanted movement

Content Modification

Block	Modification	Justification

Cross Reference

Course Plan	Training Record	Task Book
Heavy Vehicle Rescue Technician (2021) <ul style="list-style-type: none">• Topic 4-1	Heavy Vehicle Rescue Technician (2021) <ul style="list-style-type: none">• Skill 17• Skill 18• Skill 20• Skill 21	Heavy Vehicle Rescue Technician (2021) Instructor Task Book <ul style="list-style-type: none">• JPR 4

3-4: Coordinating Heavy Equipment to Lift, Move, or Stabilize a Heavy Vehicle

Authority

1. NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)
 - Paragraph 9.3.4

Job Performance Requirement

Coordinate the use of heavy equipment as part of a plan to lift, move, or stabilize a heavy vehicle, given a heavy vehicle incident, heavy equipment and an operator, a vehicle tool kit, and PPE, so that the objective is met and the risks to the responders are minimized.

Requisite Knowledge

1. *Describe* methods of requesting heavy equipment
2. *Describe* methods of communication
3. *Describe* use of rigging

Requisite Skills

1. Determine estimated weights to be moved or lifted
2. Perform coordinated integrated lifting or moving operations utilizing heavy equipment

Content Modification

Block	Modification	Justification

Cross Reference

Course Plan	Training Record	Task Book
Heavy Vehicle Rescue Technician (2021) <ul style="list-style-type: none">• Topic 4-2	Heavy Vehicle Rescue Technician (2021) <ul style="list-style-type: none">• Skill 19	Heavy Vehicle Rescue Technician (2021) Instructor Task Book <ul style="list-style-type: none">• JPR 4

3-5: Creating Access and Egress Openings for Rescue from a Heavy Vehicle to Access or Remove Occupants from a Multi-hazard Configuration or Environment

Authority

1. NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)
 - Paragraph 9.3.5

Job Performance Requirement

Create access and egress openings for rescue from a heavy vehicle that has come to rest in a configuration or environment where multiple concurrent hazards must be managed to access or remove the occupants, given a vehicle tool kit, specialized tools and equipment, PPE, and an assignment, so that the movement of rescuers and equipment complements victim care and removal, an emergency escape route is provided, the technique chosen is expedient, victim and rescuer protection is afforded, and common passenger vehicle stability is maintained.

Requisite Knowledge

1. *Identify* heavy vehicle construction and features
2. *Describe* electrical, mechanical, hydraulic, pneumatic, and alternative access and egress equipment
3. *Identify* points and routes of ingress and egress
4. *Describe* techniques and hazards
5. *Describe* agency policies and procedures
6. *Describe* emergency evacuation and safety signals

Requisite Skills

1. Identify heavy vehicle construction features
2. Select and operate tools and equipment
3. Apply tactics and strategy based on assignment
4. Apply victim care and stabilization devices
5. Perform hazard control based on techniques selected
6. Demonstrate safety procedures and emergency evacuation signals

Content Modification

Block	Modification	Justification

Cross Reference

Course Plan	Training Record	Task Book
Heavy Vehicle Rescue Technician (2021) <ul style="list-style-type: none">• Topic 5-1 (RK1, RK3, RK6, RS1)• Topic 5-2 (RK3, RK4, RK5, RS8, RS9, RS11, RS12)• Topic 6-2 (RS10)	Heavy Vehicle Rescue Technician (2021) R = Required O = Optional <ul style="list-style-type: none">• Skill 23 (R)• Skill 24 (R)• Skill 25 (R)• Skill 26 (R)• Skill 27 (R)• Skill 28 (R)• Skill 29 (R)• Skill 30 (R)• Skill 38 (O)• Skill 39 (O)• Skill 40 (O)• Skill 41 (O)	Heavy Vehicle Rescue Technician (2021) Instructor Task Book <ul style="list-style-type: none">• JPR 3

3-6: Disentangling Victim(s) from a Heavy Vehicle Resting in a Multi-hazard Configuration or Environment

Authority

1. NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)
 - Paragraph 9.3.6

Job Performance Requirement

Disentangle victim(s) from a heavy vehicle that has come to rest in a configuration or environment where multiple concurrent hazards must be managed to access or remove occupants, given a heavy vehicle extrication incident, a vehicle tool kit, PPE, and specialized equipment, so that undue victim injury is prevented, victim protection is provided, and stabilization is maintained.

Requisite Knowledge

1. *Describe* tool selection and application
2. *Describe* stabilization systems
3. *Describe* protection methods
4. *Describe* disentanglement points and techniques
5. *Describe* dynamics of disentanglement

Requisite Skills

1. Operate disentanglement tools
2. Initiate protective measures
3. Identify and eliminate points of entrapment
4. Maintain incident stability and scene safety

Content Modification

Block	Modification	Justification

Cross Reference

Course Plan	Training Record	Task Book
Heavy Vehicle Rescue Technician (2021) <ul style="list-style-type: none">• Topic 6-1	Heavy Vehicle Rescue Technician (2021) <ul style="list-style-type: none">• Skill 33• Skill 34	Heavy Vehicle Rescue Technician (2021) Instructor Task Book <ul style="list-style-type: none">• JPR 5

3-7: Removing a Packaged Victim to a Designated Safe Area

Authority

1. NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)
 - Paragraph 9.3.7

Job Performance Requirement

Remove a packaged victim to a designated safe area, as a member of a team from a heavy vehicle that has come to rest in a configuration or environment where multiple concurrent hazards must be managed to access or remove the occupants, given a victim transfer device, a designated egress route, and PPE, so that the team effort is coordinated, the designated egress route is used, the victim is removed without compromising victim packaging, undue injury is prevented, compartment syndrome due to crash injuries is managed, and stabilization is maintained.

Requisite Knowledge

1. *Describe* patient handling techniques
2. *Describe the* incident management system
3. *Describe* types of immobilization packaging and transfer devices
4. *Describe* types of immobilization techniques
5. *Describe* use of immobilization devices

Requisite Skills

1. Use immobilization, packaging, and transfer devices for specific situations
2. *Apply* immobilization techniques
3. Apply medical protocols and safety features to immobilize, package, and transfer
4. *Apply* all techniques for lifting the patient

Content Modification

Block	Modification	Justification
RS2	Added "apply".	NFPA did not provide a verb.
RS4	Added "apply".	NFPA did not provide a verb.

Cross Reference

Course Plan	Training Record	Task Book
Heavy Vehicle Rescue Technician (2021) <ul style="list-style-type: none">• Topic 6-2	Heavy Vehicle Rescue Technician (2021) <ul style="list-style-type: none">• Skill 35• Skill 36	Heavy Vehicle Rescue Technician (2021) Instructor Task Book <ul style="list-style-type: none">• JPR 5



Heavy Vehicle Rescue Technician (2021)

Course Plan

Course Details

- Description:** This course provides the knowledge and skills to prepare an emergency responder to extricate victim(s) from a heavy vehicle in a safe and effective manner in accordance with AHJ policies and procedures. Topics include sizing up an incident; creating an incident action plan; establishing safety zones; mitigating hazards; stabilizing and creating access and egress openings for rescue from a vehicle resting on its wheels, side, and roof or in a multi-hazard configuration or environment; coordinating heavy equipment to lift, move, or stabilize a heavy vehicle; disentangling and removing victims; and terminating an incident. This course incorporates awareness, operations, and technician training based on NFPA 1006 (2021).
- Designed For:** All emergency personnel who perform heavy vehicle rescue.
- Prerequisites:** Common Passenger Vehicle Rescue (2021) **or** Vehicle Extrication (2015) **or** Auto Extrication (1996)
- Standard:** Attend and participate in all course sections
Successful completion of all skills identified on the Training Record
- Hours:** 24 hours
(6.5 lecture / 17.5 application)
- Max Class Size:** 32
- Instructor Level:** SFT Registered Heavy Vehicle Rescue Technician Instructor
- Instructor/Student Ratio:** 1:32 (lecture)
1:8 (skills/teaching demonstrations)
- Restrictions:** All instructors counted toward student ratios, including application components, must be SFT Registered Heavy Vehicle Rescue Technician Instructors.
- SFT Designation:** FSTEP

Table of Contents

Course Details	1
Table of Contents	2
Required Resources	3
Instructor Resources	3
Online Instructor Resources	3
Student Resources	3
Facilities, Equipment, and Personnel.....	3
Time Table.....	6
Time Table Key.....	7
Unit 1: Introduction	8
Topic 1-1: Orientation and Administration.....	8
Unit 2: Incident Response	9
Topic 2-1: Sizing Up an Incident.....	9
Topic 2-2: Creating an Incident Action Plan	11
Topic 2-3: Recognizing the Need for Technical Rescue Resources.....	13
Topic 2-4: Supporting an Operations- or Technician-level Incident.....	14
Topic 2-5: Recognizing Incident Hazards and Initiating Isolation Procedures.....	15
Topic 2-6: Establishing Fire Protection	17
Topic 2-7: Isolating Potentially Harmful Energy Sources.....	18
Topic 2-8: Mitigating Hazards Associated with Alternative Fuel Vehicles	20
Unit 3: Vehicle Stabilization	22
Topic 3-1: Stabilizing a Heavy Vehicle.....	22
Unit 4: Lifting and Moving	25
Topic 4-1: Lifting a Heavy Vehicle	25
Topic 4-2: Coordinating Heavy Equipment to Lift, Move, or Stabilize a Heavy Vehicle.....	27
Unit 5: Access and Egress.....	28
Topic 5-1: Determining Vehicle Access and Egress Points	28
Topic 5-2: Creating Access and Egress Openings for Rescue.....	30
Unit 6: Victim Rescue	32
Topic 6-1: Disentangling Victims.....	32
Topic 6-2: Removing a Packaged Victim to a Designated Safe Area	34
Unit 7: Incident Termination.....	36
Topic 7-1: Terminating a Vehicle Incident	36
Skill Station Recommendations	38
How to Read a Course Plan.....	40

Required Resources

Instructor Resources

To teach this course, instructors need:

- One (or both) of the following texts:
 - *Vehicle Extrication Levels I and II: Principles and Practice* (and instructor tool kit) David A. Sweet, Jones & Bartlett Learning, revised 2nd edition (or newer)
 - *Principles of Vehicle Extrication* Fire Protection Publications, International Fire Service Training Association (IFSTA), 5th edition (or newer)
- NFPA 1006: Standard for Technical Rescue Personnel (2021)
 - Physical or digital access to current edition
- Full structural personal protective equipment (including hand, eye, and respiratory protection)

Online Instructor Resources

The following instructor resources are available online at

<https://osfm.fire.ca.gov/divisions/state-fire-training/fstep-curriculum/>

- None

Student Resources

To participate in this course, students need:

- Course text selected by instructor (instructor determines whether students must purchase text and which one)
 - *Vehicle Extrication Levels I and II: Principles and Practice* (and instructor tool kit) David A. Sweet, Jones & Bartlett Learning, revised 2nd edition (or newer)
 - *Principles of Vehicle Extrication* Fire Protection Publications, International Fire Service Training Association (IFSTA), 5th edition (or newer)
- Full structural personal protective equipment (including hand, eye, and respiratory protection)

Facilities, Equipment, and Personnel

Facilities

The following facilities are required to deliver this course:

- Standard learning environment or facility, which may include:
 - Writing board or paper easel chart
 - Markers, erasers
 - Amplification devices
 - Projector and screen
 - Laptop or tablet with presentation or other viewing software
 - Internet access with appropriate broadband capabilities

- A training site with the NFPA 1006 required facilities, structures, work areas, materials, props, tools, and equipment of adequate size, type, and quantity to fully and safely support the cognitive and psychomotor training required to deliver the Heavy Vehicle Rescue Technician (2021) curriculum

Equipment

Student safety is of paramount importance when conducting the type of high-risk training associated with this Heavy Vehicle Rescue Technician course.

- The equipment listed below is the minimum for the delivery of this course.
- The student is responsible for providing all PPE and ensuring that all PPE meets AHJ and site requirements.

The following equipment is the minimum required to deliver this course:

Category	Equipment
Incident action plan (IAP)	One for each skills day (tactical worksheets and ICS 201)
Hand tools	Bolt cutters, crowbar/pry bar, flat head axe, Halligan tool, hack saw and spare blades, pick-head axe, pike pole (or equivalent), flashlight, sledgehammer, spring-loaded center punch, cable cutters, seatbelt cutter (or equivalent), webbing, utility rope, duct tape, basic mechanic’s tool kit, heavy vehicle tool kit
Power tools	Circular saw, reciprocating saw
Fire extinguishers	One per skills station
Extrication tools	Cutters, spreaders, rams
Stabilization	Cable/chains/rope/sling (determined by AHJ), manufactured strut systems, cribbing, wedges, step chocks, wheel chocks
Vehicles	1 heavy vehicle, 1 passenger vehicle
Specialized heavy equipment	One of the following: wrecker, rotator, crane, or equivalent
Victim Immobilization and Protection	Determined by AHJ
Victims	Manufactured or improvised rescue mannequins (determined by number of vehicles used)
Lifting equipment	Air bag set, struts, hydraulic and mechanical jacks
Other supplies as needed	Salvage covers, straight or folding ladder, hearing protection (one/student minimum), brooms, shovels, absorbent
For all equipment, ensure that you have the power source, operating supplies (blades, fuel, etc.), and cleaning supplies.	

Personnel

The following personnel are required to deliver this course:

- Any instructor counted toward student ratios must be an SFT Registered Heavy Vehicle Rescue Technician (2021) Instructor.

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Time Table

Segment	Lecture	Application	Unit Total
Unit 1: Introduction			
Topic 1-1: Orientation and Administration	0.5	0.0	
Unit 1 Totals	0.5	0.0	0.5
Unit 2: Incident Response			
Topic 2-1: Sizing Up an Incident	0.25	0.0	
Topic 2-2: Creating an Incident Action Plan	0.5	0.25	
Topic 2-3: Recognizing the Need for Technical Rescue Resources	0.25	0.0	
Topic 2-4: Supporting an Operations- or Technician-level Incident	0.25	0.0	
Topic 2-5: Recognizing Incident Hazards and Initiating Isolation Procedures	0.25	0.25	
Topic 2-6: Establishing Fire Protection	0.25	0.25	
Topic 2-7: Isolating Potentially Harmful Energy Sources	0.25	0.25	
Topic 2-8: Mitigating Hazards Associated with Alternative Fuel Vehicles	0.25	0.0	
Unit 2 Totals	2.25	1.0	3.25
Unit 3: Vehicle Stabilization			
Topic 3-1: Stabilizing a Heavy Vehicle	1.5	4.5	
Unit 3 Totals	1.5	4.5	6.0
Unit 4: Lifting and Moving			
Topic 4-1: Lifting a Heavy Vehicle	0.25	2.0	
Topic 4-2: Coordinating Heavy Equipment to Lift, Move, or Stabilize a Heavy Vehicle	0.25	2.0	
Unit 4 Totals	0.5	4.0	4.5
Unit 5: Access and Egress			
Topic 5-1: Determining Vehicle Access and Egress Points	0.25	0.5	
Topic 5-2: Creating Access and Egress Openings for Rescue	0.75	6.0	
Unit 5 Totals	1.0	6.5	7.5
Unit 6: Victim Rescue			
Topic 6-1: Disentangling Victims	0.25	1.0	
Topic 6-2: Removing a Packaged Victim to a Designated Safe Area	0.25	0.25	
Unit 6 Totals	0.5	1.25	1.75
Unit 7: Incident Termination			
Topic 7-1: Terminating a Vehicle Incident	0.25	0.25	
Unit 7 Totals	0.25	0.25	0.5

Segment	Lecture	Application	Unit Total
Formative Assessments			
Determined by AHJ or educational institution	0.0	0.0	0.0
Summative Assessment			
Determined by AHJ or educational institution	0.0	0.0	0.0
Course Totals	6.5	17.5	24.0

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.

The following is a breakdown of what a program might look like if there were fewer students. These estimates may need to be adjusted based on student abilities.

- 40 – 50 Students = 260 hours
 - 30 – 40 Students = 180 hours
 - 20 – 30 Students = 120 hours
 - 1 – 20 Students = 60 hours
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
 - Required student resources
 - Class participation requirements

Discussion Questions

1. Determined by instructor

Application

1. Have students complete all required registration forms.

Unit 2: Incident Response

Topic 2-1: Sizing Up an Incident

Terminal Learning Objective

At the end of this topic a student, given an incident, background information and applicable reference materials, will be able to size up a heavy vehicle incident so that the scope of the rescue is determined, the number of victims are identified, the last reported location of all the victims is established, witnesses and reporting parties are identified and interviewed, resource needs are assessed, primary search parameters are identified, and information required to develop an initial incident action plan is obtained.

Enabling Learning Objectives

1. Identify types of reference materials and their uses
 - Emergency response guides
 - AHJ standard operating procedures and guidelines
2. Describe risk/benefit assessment
 - Rescue vs. recovery
3. Identify resource availability, capabilities, and limitations
4. Describe elements of an action plan and related information
 - Formal (ICS roles) vs. informal
 - Determined by incident complexity
5. Describe how size up relates to the incident management system
6. Describe information gathering techniques and how that information is used in the size-up process
 - Pre-incident
 - En route
 - On scene
 - Evolving
7. Describe basic search criteria for heavy vehicle rescue incidents
 - Additional compartments to search (sleepers, busses, RVs, trailers, etc.)
8. Read technical rescue reference materials
9. Gather information
10. Use interview techniques
11. Relay information
12. Manage witnesses
13. Use information-gathering sources

Discussion Question

1. When does scene size up begin?
2. What specialty resources to support heavy vehicle rescue are available in your AHJ?
3. How would you search the following heavy vehicles to find victims: a motor home, a tractor and trailer, and a tour bus?

Application

1. Students will practice this skill at multiple skill stations and must perform it once for evaluation.

Instructor Notes

1. For any content identified as “determined by AHJ”, adjust content to reflect the policies, procedures, guidelines, and best practices of the AHJ delivering or hosting the course.

This applies to all topics in this course plan.

CTS Guide Reference: CTS 1-1

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Topic 2-2: Creating an Incident Action Plan

Terminal Learning Objective

At the end of this topic a student, given agency guidelines, planning forms, and an operations- or technician-level vehicle incident or simulation, will be able to create an incident action plan for a heavy vehicle incident and conduct initial and ongoing size-up so that a standard approach is used during training and operational scenarios, emergency situation hazards are identified, isolation methods and scene security measures are considered, fire suppression and safety measures are identified, vehicle stabilization needs are evaluated, and resource needs are identified and documented for future use.

Enabling Learning Objectives

1. Describe operational protocols
 - Determined by incident and AHJ
2. Identify specific planning forms
 - Determined by incident and AHJ
3. Identify types of vehicles common to the AHJ boundaries
 - 10,000 lbs. (gross vehicle weight rating) and up
4. Describe heavy vehicle hazards
 - Multiple unstable objects
 - Weight
 - Cargo
 - Access issues
 - Potential for roll over
 - Potential for collapse
 - Exposed vehicle components
 - Fluid leaks
5. Describe incident support operations and resources
 - Determined by incident and AHJ
 - Consider truck company, rescue company, hazmat unit, specialized heavy equipment, extended operational needs
6. Identify heavy vehicle anatomy as it relates to an incident action plan
7. Identify “multi-hazard configuration or environment” incidents
 - Configuration = two or more independently unstable objects
 - Vehicle on top of vehicle
 - Object on top of vehicle
 - Vehicle on top of object
 - Chassis and load
 - Environment
 - Cliffs
 - Water
 - Rocks
 - Structure
8. Describe fire suppression and safety measures
9. Apply operational protocols

10. Select specific planning forms based on the types and position of vehicles
11. Identify and evaluate various types of heavy vehicles within the AHJ boundaries
12. Request support and resources
13. Identify commercial/heavy vehicle anatomy
14. Determine the required fire suppression and safety measures

Discussion Questions

1. What types of heavy vehicles are common in your AHJ?
2. How does a vehicle's construction impact your incident action plan?
3. How does a vehicle's use impact your incident action plan?
4. What hazards are unique to a multi-hazard configuration?
5. What additional resources and equipment might be required for an incident involving a multi-hazard configuration?

Application

1. Students will practice this skill at multiple skill stations and must perform it once for evaluation for one vehicle placement or configuration.

Instructor Notes

1. ELO 4: Introduce the concept here. Topic 2-5 has more in-depth content.
2. ELO 6: Introduce the concept here. Topic 5-1 has more in-depth content.
3. ELO 8: Introduce the concept here. Topic 2-6 has more in-depth content.

CTS Guide Reference: CTS 2-1 / CTS 3-1

Topic 2-3: Recognizing the Need for Technical Rescue Resources

Terminal Learning Objective

At the end of this topic a student, given AHJ guidelines, will be able to recognize the need for technical rescue resources at an operations- or technician-level incident so that the need for additional resources is identified, the response system is initiated, the scene is secured and rendered safe until additional resources arrive, and awareness-level personnel are incorporated into the operational plan.

Enabling Learning Objectives

1. Describe operational protocols
 - Determined by incident and AHJ
2. Identify specific planning forms
3. Identify types of incidents common to the AHJ
4. Identify hazards
5. Describe incident support operations and resources
 - Determined by incident and AHJ
 - Examples:
 - HazMat Team
 - Specialized heavy equipment (wrecker, rotator, crane, etc.)
 - EMS
6. Describe safety measures
7. Apply operational protocols
8. Select specific planning forms based on the types of incidents
9. Identify and evaluate various types of hazards within the AHJ
10. Request support and resources
11. Determine the required safety measures

Discussion Questions

1. What factors determine when an incident requires additional or specialty resources?
2. What process does your AHJ use to request resources?

Application

1. Students will practice this skill at multiple skill stations and must perform it once for evaluation.

Instructor Notes

1. None

CTS Guide Reference: CTS 1-3

Topic 2-4: Supporting an Operations- or Technician-level Incident

Terminal Learning Objective

At the end of this topic a student, given an incident, an assignment, an incident action plan, and resources from the tool kit, will be able to support an operations- or technician-level incident so that the assignment is carried out, progress is reported to command, environmental concerns are managed, personnel rehabilitation is facilitated, and the incident action plan is supported.

Enabling Learning Objectives

1. Identify support roles and responsibilities
 - Traffic control
 - Fire suppression
 - Establishing safety zones
 - Notifications
 - Resource requests
 - Logistical support
 - Emergency medical services
2. Describe AHJ operational protocols
3. Identify hazard recognition
4. Describe incident management
5. Identify PPE selection
6. Describe how to select and use resources
7. Identify scene support requirements
8. Apply operational protocols
9. Function within an incident management system
10. Follow and implement an incident action plan
11. Report the task progress status to a supervisor or incident command

Discussion Questions

1. What are some of the roles and responsibilities of an awareness level responder during an incident?
2. What are some common hazards that occur at a heavy vehicle incident?

Application

1. Students will practice this skill at multiple skill stations and must perform it once for evaluation.

Instructor Notes

1. None

CTS Guide Reference: CTS 1-4

Topic 2-5: Recognizing Incident Hazards and Initiating Isolation Procedures

Terminal Learning Objective

At the end of this topic a student, given scene control barriers, personal protective equipment (PPE), requisite equipment, and available specialized resources, will be able to recognize incident hazards and initiate isolation procedures so that all hazards are identified; resource application fits the operational requirements; hazard isolation is considered; risks to rescuers, bystanders, and victims are minimized; and rescue time constraints are considered.

Enabling Learning Objectives

1. Describe hazard recognition, isolation methods, and terminology
 - Vehicle stability
 - Leaking fluids (vehicle and victim)
 - Cargo/hazmat
2. Identify resource capabilities and limitations
3. Identify types and nature of incident hazards
 - Situational
 - Traffic
 - Weather (rain, snow, fog, glare, etc.)
 - Terrain (rocks, trees, water, elevation, etc.)
 - Road construction
 - Hazardous materials
 - Location (train tracks, hairpin turns, wires, etc.)
 - Vehicle
 - Propulsion (fuel, hybrid, alternate)
 - Restraint systems
 - Electrical
 - Cargo
 - Other (contents, struts, exotic metals, etc.)
4. Describe equipment types and their use
 - Absorbents
 - Tools
 - Equipment
 - Visual identifiers
5. Describe isolation terminology
6. Describe isolation methods
 - De-energize vehicle
 - Lock-out/tag-out
 - Remote emergency shut offs
 - Air systems
 - Safe distance from air bags
7. Identify operational requirement concerns
 - Responder safety

- Patient safety
 - Public safety
 - Environmental safety
8. Identify common types of rescuer and victim risks
 - Moving vehicles
 - Hazardous materials
 - Electrocutation
 - Fire
 - Biohazards
 - Psychological impact
 - Injury
 - Death
 9. Describe risk/benefit analysis methods and practices
 10. Describe methods for controlling access to the scene
 - Flagging
 - Caution tape
 - Personnel (crew, law enforcement, DOT)
 11. Identify and types of technical references
 - NFPA 1006 (current edition)
 - Text identified by instructor
 12. Identify incident hazards
 13. Assess potential hazards to rescuers and bystanders
 14. Place scene control barriers
 15. Operate control and mitigation equipment

Discussion Questions

1. What heavy vehicle features create hazards for rescuers?
2. What risks might rescuers encounter when isolating or mitigating hazards?
3. What kind of air bag systems might you find on a heavy vehicle?
4. What is a simple way to reduce electrical hazards in a heavy vehicle?

Application

1. Students will practice this skill at multiple skill stations and must describe it once for evaluation.

Instructor Notes

1. None

CTS Guide Reference: CTS 1-2

Topic 2-6: Establishing Fire Protection

Terminal Learning Objective

At the end of this topic a student, given an extrication incident and fire control support, will be able to establish fire protection so that fire and explosion potential is managed, and fire hazards and rescue objectives are communicated to the fire support team.

Enabling Learning Objectives

1. Identify types of fire and explosion hazards
 - Fuels
 - Fuel Additives (ethanol, methanol)
 - Specialty metals
 - Batteries
 - Pressurized cylinders
 - Restraint devices
 - Ignition sources
 - Cargo
2. Describe types of extinguishing devices
 - Water (1½" diameter charged hoseline minimum)
 - Foam (tender or eductor)
 - Extinguishers
3. Describe agency policies and procedures
 - Determined by AHJ
 - Fire suppression policy
 - Rapid intervention personnel policy
4. Identify types of flammable and combustible substances and types of ignition sources
5. Describe extinguishment or control options
6. Identify fire and explosion hazards
7. Operate within the incident management system
8. Use extinguishing devices
9. Apply fire control strategies
10. Manage ignition potential

Discussion Questions

1. What components of a heavy vehicle are a potential fire or explosion hazard?
2. What is your agency's policy on protection lines during a heavy vehicle rescue?

Application

1. Students will practice this skill at multiple skill stations and must perform it once for evaluation.

Instructor Notes

1. None

CTS Guide Reference: CTS 2-2

Topic 2-7: Isolating Potentially Harmful Energy Sources

Terminal Learning Objective

At the end of this topic a student, given a heavy vehicle, vehicle tool kit, and PPE, will be able to isolate potentially harmful energy sources, including propulsion power, restraint systems, and construction materials, so that all hazards are identified and isolated, systems are managed, beneficial system use is evaluated, and hazards to rescue personnel and victims are minimized.

Enabling Learning Objectives

1. Identify types and uses of PPE
2. Identify types of energy sources
 - Kinetic vs. potential
 - Electrical
 - Fuel
 - Chemical
 - Pneumatic systems
 - Fuel pumps
 - Air bags (passive restraint devices)
 - Alternative fuel systems
 - Air suspension systems
 - Gravity
 - Mechanical
 - Topographical
3. Describe system isolation methods
 - Operate beneficial systems in support of tactical operations before isolating
4. Describe specialized system features
5. Describe tools for disabling hazards
 - Determined by AHJ
 - Determined by incident
6. Describe AHJ policies and procedures
7. Select and use hazard-specific PPE
8. Identify hazard
9. Operate beneficial systems in support of tactical objectives
10. Operate tools and devices for securing and disabling hazards

Discussion Questions

1. What systems should you address before isolating power?
2. What are some common energy source locations in or on a heavy vehicle?
3. What tools or equipment does your agency use to manage energy sources?
4. How are the energy sources on heavy vehicles different from those on common passenger vehicles?

Application

1. Students will practice this skill at multiple skill stations and must perform it once for evaluation.

Instructor Notes

1. None

CTS Guide Reference: CTS 2-5

Draft

Topic 2-8: Mitigating Hazards Associated with Alternative Fuel Vehicles

Terminal Learning Objective

At the end of this topic a student, given an alternative fuel heavy vehicle, heavy vehicle tool kit, and PPE, will be able to identify and mitigate hazards associated with alternative fuel vehicles so that all hazards are identified and isolated, systems are managed, beneficial system use is evaluated, and hazards to rescue personnel and victims are minimized.

Enabling Learning Objectives

1. Identify an “alternative” fuel vehicle
 - A motorized vehicle propelled by anything other than gas or diesel alone
2. Identify alternative fuel sources
 - Electrical
 - Hybrid
 - Hydrogen
 - Biodiesel
 - Natural gas
 - Compressed (CNG)
 - Liquefied (LNG)
 - Liquefied petroleum gas (LPG)
3. Identify types of alternative fuel heavy vehicles in the AHJ
 - Buses
 - Trash trucks
 - Semi-trucks
 - Box trucks
4. Identify hazards associated with alternative fuel vehicles
 - Electrical/hybrid
 - Electrocutation
 - Exotic metal fires
 - Burns
 - Respiratory damage
 - Death
 - Gasses
 - Fire
 - Explosions
 - Compressed cylinders
 - Burns
 - Respiratory damage
 - Death
5. Describe how to isolate hazards
 - Determined by AHJ
 - Determined by manufacturer emergency response guides
 - Determined by safety data sheets (SDS)
6. Describe policies and procedures of the AHJ

Discussion Questions

1. What type of alternative fuel heavy vehicles operate in your AHJ?
2. How do you identify an alternative fuel heavy vehicle?
3. What hazards are associated with alternative fuel heavy vehicles?

Application

1. None

Instructor Notes

1. There are no psychomotor skills associated with this topic.

CTS Guide Reference: CTS 2-6

Unit 3: Vehicle Stabilization

Topic 3-1: Stabilizing a Heavy Vehicle

Terminal Learning Objective

At the end of this topic a student, given a heavy vehicle, a technician-level heavy vehicle incident or simulation, a vehicle tool kit, and PPE, will be able to stabilize a heavy vehicle resting in its position of use, on its roof, on its side, or in a configuration or environment where multiple concurrent hazards must be managed to access or remove the occupants, so that the vehicle is prevented from moving during the rescue operations; entry, exit, and tool placement points are not compromised; anticipated rescue activities will not compromise vehicle stability; selected stabilization points are structurally sound; stabilization equipment can be monitored; and the risk to rescuers is minimized.

Enabling Learning Objectives

1. Identify factors that impact stabilization
 - Vehicle size or type
 - Vehicle position
 - Multiple vehicles or objects
 - Ground surface (dirt, gravel, sand, mud)
 - Topography (water, cliffs, rocks, embankments)
 - Access needs
 - Contaminants
 - Cargo/load
2. Describe types and rated capacities of stabilization devices
 - Chocks
 - Wheel
 - Step
 - Vehicle systems (ignition, brakes, etc.)
 - Cribbing
 - Struts
 - Cables, chains, ropes, slings
 - Marrying/joining together vehicles/objects
 - Air bags
 - Specialized heavy equipment
3. Describe mechanisms of heavy vehicle movement
 - Horizontal Movement
 - Vehicle moves forward or rearward on its longitudinal axis or moves horizontally along its lateral axis
 - Vertical Movement
 - Vehicle moves up and down in relation to the ground while moving along its vertical axis
 - Roll Movement

- Vehicle rocks side to side while rotating about on its longitudinal axis and remaining horizontal in orientation
 - Pitch Movement
 - Vehicle moves up and down about its lateral axis, causing the vehicle's front and rear portions to move left or right in relation to their original position
 - Yaw Movement
 - Vehicle twists or turns about its vertical axis, causing the vehicle's front and rear portions to move left or right in relation to their original position
 - Multiple objects with potential to move in multiple directions
4. Identify types of stabilization points
 - Single vs. Multi-point (based on access needs)
 - Vehicle placement (may already provide stabilization)
 - Need to stabilize multiple objects (may not all be vehicles)
 5. Identify types of stabilization surfaces
 - Solid structural surfaces (determined by vehicle)
 - Non-vehicle surfaces (rocks, structures, utility poles, etc.)
 6. Describe types of vehicle construction components as they apply to stabilization
 - Frame
 - Undercarriage
 - Platform
 - Trailers
 - Loads
 - Use what is available based on resting position of vehicles
 7. Describe AHJ policies and procedures
 8. Select, operate, and monitor stabilization devices

Discussion Questions

1. What environmental or topographical features in your AHJ could be involved in a vehicle rescue incident?
2. What tools and equipment does your agency use to stabilize a heavy vehicle?
3. How can heavy vehicle location or position impact stabilization needs?
4. How is stabilizing a tractor-trailer different from stabilizing a school bus?
5. How is stabilizing a heavy vehicle resting on its roof different from a vehicle resting on its wheels?
6. How is stabilizing a heavy vehicle resting on its side different from a vehicle resting on its wheels?
7. How is stabilizing a heavy vehicle in a multi-hazard configuration different from a solo vehicle?
8. How does your agency marry or join together vehicles or objects?

Application

1. Students will practice this skill at multiple skill stations and must perform stabilization once for each of the following devices on at least one vehicle placement or configuration:
 - Chocks (or equivalent)

- Cribbing (or equivalent)
- Struts (or equivalent)
- Air bags
- Cables, chains, ropes, or slings
- Specialized heavy equipment
- Marrying/joining together a vehicle and another vehicle or object

Instructor Notes

1. None

CTS Guide Reference: CTS 2-3 / CTS 2-4 / CTS 3-2

Unit 4: Lifting and Moving

Topic 4-1: Lifting a Heavy Vehicle

Terminal Learning Objective

At the end of this topic a student, given a heavy vehicle incident, a vehicle tool kit, and PPE, will be able to lift a heavy vehicle so that unanticipated movement is prevented during the rescue operations; entry, exit, and tool placement points are not compromised; anticipated rescue activities will not compromise vehicle stability; selected lift points are structurally sound; lifting equipment can be monitored; and the risk to rescuers is minimized.

Enabling Learning Objectives

1. Describe types of lifting devices
 - Air bags (high, medium, low pressure)
 - Struts
 - Jacks
 - Specialized heavy equipment
 - Hydraulic tools
2. Describe mechanisms of vehicle movement
3. Identify types of lifting points
 - Single point vs. multi-point (based on access needs)
4. Identify types of lifting surfaces
 - Pre-existing (some vehicles) vs. improvised
 - Solid structural surfaces (determined by vehicle)
5. Describe how to capture a load
 - Cribbing (6x6 or 4x4 – determined by vehicle)
 - Box (crosstie)
 - Solid (crosstie platform)
 - Modified crosstie
 - Struts
 - Alternative material
6. Describe hazards associated with lifting heavy vehicles
 - Size and configuration
 - Load shifts
 - Unknown weights
 - Unknown cargo
 - Center of gravity changes
 - Dispersed cargo
 - Animal cargo
7. Describe AHJ policies and procedures
8. Describe types of vehicle construction components as they apply to lifting
9. Deploy and operate lifting devices
10. Deploy cribbing or struts
11. Recognize competent lift points

12. Calculate weights and center of gravity
13. Assess vehicle stability
14. Use tools or systems to prevent unwanted movement

Discussion Questions

1. Why would you use 6x6 cribbing instead of 4x4?
2. What hazards should you consider when lifting a heavy vehicle?
3. What types of cargo could you encounter during a heavy vehicle incident?

Application

1. Students will practice this skill at at least one skill station and must perform it once for evaluation.

Instructor Notes

1. ELO 2 was already covered in Topic 3-1 but should be referenced here in relation to lifting and moving vehicles.

CTS Guide Reference: CTS 3-3

Topic 4-2: Coordinating Heavy Equipment to Lift, Move, or Stabilize a Heavy Vehicle

Terminal Learning Objective

At the end of this topic a student, given a heavy vehicle incident, heavy equipment and an operator, a vehicle tool kit, and PPE, will be able to coordinate the use of heavy equipment as part of a plan to lift, move, or stabilize a heavy vehicle so that the objective is met and the risks to the responders are minimized.

Enabling Learning Objectives

1. Describe methods of requesting heavy equipment
 - Determined by AHJ
2. Describe methods of communication
 - Radio
 - Hand signals
 - Face-to-face
3. Describe how to use rigging
 - Under direction of operator
4. Determine estimated weights to be moved or lifted
5. Perform coordinated integrated lifting or moving operations utilizing heavy equipment

Discussion Questions

1. Where can you find the weight of a commercial vehicle?
2. What heavy equipment is available in your AHJ?
3. Who determines the appropriate rigging?

Application

1. Students will practice this skill at at least one skill station and must perform it once for evaluation.

Instructor Notes

1. None

CTS Guide Reference: CTS 3-4

Unit 5: Access and Egress

Topic 5-1: Determining Vehicle Access and Egress Points

Terminal Learning Objective

At the end of this topic a student, given structural and damage characteristics and potential victim location(s), will be able to determine heavy vehicle access and egress points, so that the victim location(s) is identified; access and egress points for victims, rescuers, and equipment are designated; flows of personnel, victims, and equipment are identified; existing entry points are used; time constraints are factored; selected entry and egress points do not compromise vehicle stability; chosen points can be protected; equipment and victim stabilization are initiated; and AHJ safety and emergency procedures are enforced.

Enabling Learning Objectives

1. Describe heavy vehicle anatomy and construction features
 - Seven sides (top, bottom, four sides, inside)
 - Frame construction
 - Unibody
 - Solid frame
 - Suspension
 - Doors
 - Roof
 - Pillars/posts
 - Glass
 - Restraint systems
 - Trailers
 - Drums
2. Identify access, egress, and purchase points
 - Primary – existing (doors, windows, emergency exits)
 - Secondary – created (cutting)
3. Identify routes and associated hazards
 - Routes
 - Primary
 - Secondary
 - Hazards
 - Broken glass
 - Sharp objects
 - Leaking contaminates
 - Victim protection
 - Vehicle height (fall risks)
4. Describe AHJ standard operating procedure
5. Describe emergency evacuation and safety signals
 - Determined by AHJ
6. Identify access and egress points and probable victim locations

7. Assess and evaluate impact of vehicle stability on the victim

Discussion Questions

1. What are some non-cutting access and egress points on a heavy vehicle?
2. What emergency and evacuation signals do you use in your agency?

Application

1. Students will practice this skill at multiple skill stations and must perform it once for evaluation.

Instructor Notes

1. None

CTS Guide Reference: CTS 2-7

Topic 5-2: Creating Access and Egress Openings for Rescue

Terminal Learning Objective

At the end of this topic a student, given a technician-level heavy vehicle incident or simulation, a heavy vehicle tool kit, specialized tools and equipment, PPE, and an assignment, will be able to create access and egress openings for rescue from a heavy vehicle resting on its wheels, roof, side, or in a configuration or environment where multiple concurrent hazards must be managed to access or remove the occupants, so that the movement of rescuers and equipment complements victim care and removal, an emergency escape route is provided, the technique chosen is expedient, victim and rescuer protection is afforded, and vehicle stability is maintained.

Enabling Learning Objectives

1. Describe access and egress equipment
 - Electrical
 - Mechanical
 - Hydraulic
 - Pneumatic
 - Alternative
 - Ladders
2. Describe techniques and hazards
 - "Try before you pry" (least invasive to most invasive)
 - Door access
 - Hinge side
 - Latch side
 - Full removal
 - Third door conversion (semi sleeper compartment)
 - Dash displacement
 - Lift
 - Roll
 - Glass removal
 - Side windows
 - Rear window
 - Windshield
 - Sunroof/moonroof
 - Sidewall removal (B post blow out)
 - Roof access
 - Flap
 - Removal
 - Rear access
 - Tunneling
 - Seat displacement
 - Pedal displacement
 - Floor pan displacement

3. Describe AHJ policies and procedures
4. Select and operate tools and equipment
5. Apply tactics and strategy based on assignment
6. Perform hazard control based on techniques selected
7. Demonstrate safety procedures and emergency evacuation signals

Discussion Questions

1. How would you prioritize selecting access and egress points?
2. What tools does your AHJ use to create access and egress?
3. In what situations would you use a third door conversion?
4. How do you prioritize access and egress points on a vehicle resting on its roof?
5. How do you prioritize access and egress points on a vehicle resting on its side?
6. What technique is most often used to create access and egress points for a vehicle resting on its roof or side?
7. In a multi-vehicle configuration, how do you prioritize where to create access and egress points?
8. What hazards can be created while making access and egress points?

Application

1. Students will practice this skill at multiple skill stations and must perform once for each of the following techniques—removing glass, removing a door, removing a roof, displacing a dash (lift), and displacing a dash (roll)—on at least one vehicle placement or configuration.

Instructor Notes

1. None

CTS Guide Reference: CTS 2-8 / CTS 2-9 / CTS 3-5

Unit 6: Victim Rescue

Topic 6-1: Disentangling Victims

Terminal Learning Objective

At the end of this topic a student, given a heavy vehicle extrication incident, a vehicle tool kit, PPE, and specialized equipment, will be able to disentangle victim(s) from a heavy vehicle that has come to rest on its wheels, roof, side, or in a configuration or environment where multiple concurrent hazards must be managed to access or remove the occupants, so that undue victim injury is prevented; victim protection is provided; and stabilization is maintained.

Enabling Learning Objectives

1. Describe tool selection and application
 - Cutting tools
 - Spreading tools
 - Lifting tools
2. Describe stabilization systems
 - As indicated by county (LEMSA) EMS policies and procedures
3. Describe protection methods
 - Eye protection
 - Respiratory protection
 - Exposure protection
 - Debris protection
4. Describe disentanglement points and techniques
 - Structural components (pedals, dash, steering wheel, etc.)
 - Safety systems (seat belts, air bag, etc.)
 - Foreign objects (trees, signposts, etc.)
 - Cargo (boxes, tools, ammunition, etc.)
5. Describe disentanglement dynamics
 - Basic laws of physics
 - Change in victim condition
6. Operate disentanglement tools
7. Initiate protective measures
8. Identify and eliminate points of entrapment
9. Maintain incident stability and scene safety

Discussion Questions

1. What victim stabilization systems does your agency use?
2. What type of victim protection equipment does your agency use?
3. What are common entanglement points that may trap victims?

Application

1. Students will practice this skill at multiple skill stations and must perform it once for evaluation.

Instructor Notes

1. None

CTS Guide Reference: CTS 2-10 / CTS 3-6

Draft

Topic 6-2: Removing a Packaged Victim to a Designated Safe Area

Terminal Learning Objective

At the end of this topic a student, given a victim transfer device, a designated egress route, and PPE, will be able to remove a packaged victim to a designated safe area, as a member of a team from a heavy vehicle that has come to rest on its wheels, roof, side, or in a configuration or environment where multiple concurrent hazards must be managed to access or remove the occupants, so that the team effort is coordinated, the designated egress route is used, the victim is removed without compromising victim packaging, undue injury is prevented, compartment syndrome due to crush injuries is managed, and stabilization is maintained.

Enabling Learning Objectives

1. Describe patient handling techniques
 - As indicated by county (LEMSA) EMS policies and procedures
 - Goal is patient outcome, not vehicle outcome
 - Goal is to minimize harm to victim
2. Describe the incident management system
 - As it relates to disentangling and removing victims
3. Describe types of immobilization, packaging, and transfer devices
 - Qualified medical personnel to address before victim removal
 - As indicated by county (LEMSA) EMS policies and procedures
4. Describe types of immobilization techniques
 - Qualified medical personnel to address before victim removal
 - As indicated by county (LEMSA) EMS policies and procedures
5. Identify signs and symptoms of compartment syndrome
 - Qualified medical personnel to address before victim removal
 - In accordance with (LEMSA) EMS policies and procedures
6. Describe how to use immobilization devices
7. Identify victim decontamination needs prior to transport
8. Use immobilization, packaging, and transfer devices for specific situations
9. Use immobilization techniques
10. Apply medical protocols and safety features to immobilize, package, and transfer
11. Use all techniques for lifting the patient

Discussion Questions

1. What tools and equipment does your agency use to immobilize patients?
2. What rescuer actions could contribute to victim injuries?
3. Who is responsible for determining how a patient is handled, packaged, and transported?
4. Who is responsible for patient decontamination?

Application

1. Students will practice this skill at multiple skill stations and must perform it once for evaluation.

Instructor Notes

1. None

CTS Guide Reference: CTS 2-11 / CTS 3-7

Draft

Unit 7: Incident Termination

Topic 7-1: Terminating a Vehicle Incident

Terminal Learning Objective

At the end of this topic a student, given PPE specific to the incident, isolation barriers, and an extrication tool kit, will be able to terminate a heavy vehicle incident so that rescuers and bystanders are protected during termination operations; the party responsible for the operation, maintenance, or removal of the affected vehicle is notified of any modification or damage created during the extrication process; scene control is transferred to a responsible party; potential or existing hazards are communicated to that responsible party; and command is terminated.

Enabling Learning Objectives

1. Describe PPE characteristics
 - PPE requirements change in IDLH vs non-IDLH
 - Decontamination requirements
2. Identify hazards and risks
 - Reevaluate mitigated and ongoing hazards
 - Complacency
 - Normalized deviance
 - Fatigue
3. Describe isolation techniques
4. Identify statutory requirements identifying responsible parties
 - Determined by AHJ
5. Describe how to use accountability systems
 - PAR – personnel accountability report
6. Describe reporting methods
 - Determined by AHJ
7. Describe post incident analysis techniques
 - Determined by AHJ
 - Critical incident stress debriefing
8. Select and use hazard-specific PPE
9. Decontaminate PPE
10. Use barrier protection techniques
11. Collect data and *implement* record keeping/reporting protocols
12. *Conduct* post incident analysis activities

Discussion Questions

1. What hazards and risks can be present during incident termination?
2. Who are some common responsible parties for the operation, maintenance, or removal of the affected vehicle?
3. What critical incident stress management resources are available to you?

Application

1. Students will practice this skill at at least one skill station and must describe it once for evaluation.

Instructor Notes

1. The psychomotor components of this lesson plan are not practiced in this class.
Students will participate in cleaning up the drill ground but will not actually terminate an incident.

CTS Guide Reference: CTS 3-12

Draft

Skill Station Recommendations

Safety / Engine

- PPE selection / donning
- Scene size up
 - Incident Action Plan (IAP)
 - Resources
- Scene safety
 - Zones
 - Traffic
 - Hazards / hazardous materials
- Apparatus
 - Spotting / warning devices (cones, flares, etc.)
- Extinguishment
 - Minimum 1½" hose line
 - Dry chemical
 - Other water source

Stabilization

- Vehicle position
 - Wheel resting
 - Side resting
 - Roof resting
 - Other
- Vehicle disabling
 - In park, keys/fob removed, brake set, in gear, etc.
- Wheel chocks
- Cribbing
- Jacks
- Anchoring
 - Chains, level, slings, bindings
- Lifting

EMS/Victim Rescue

- Mechanism of injury
- Triage
- Victim/patient safety during extrication
- Spinal precautions
- Victim/patient packaging
- Extricate/transfer
- Advanced EMS skills
- Documentation

Extrication/Disentanglement

- Assess / egress
- Glass management
- Door removal
 - Hinge side
 - Latch side
 - Sidewall
 - Third-door conversion (optional)
 - Sliding door (optional)
- Roof
 - Roof removal
 - Roof flap
- Dash displacement
 - Lift
 - Roll
- Alternative extrication techniques
 - Truck tunneling (optional)
 - Floor pan drop (optional)
 - Seat displacement (optional)
 - Pedal displacement (optional)

Incident Termination

- Post incident analysis
- Decontamination
- Notifications
- Documentation
- Tool and equipment rehabilitation

Tool Lab

- Hydraulic/E-draulic
 - Power unit/batteries
 - Spreaders
 - Cutters
 - Rams
 - Combi tool
 - Accessories
- Hand/Power tools
 - Striking, prying, pulling, cutting
 - Engine / Truck company / AHJ compliment
 - Other AHJ tools
 - Pneumatics
 - Air bags
 - Air chisel (optional)

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.



Heavy Vehicle Rescue Technician (2021) Training Record

Name: _____

SFT ID Number: _____

Unless otherwise specified by an asterisk (*) indicating that each student must complete a skill individually, students will complete these skills as a member of a team.

	Required Skills	Course Plan Topic	Evaluator Initials
1.	Size up a heavy vehicle incident	2-1	
2.	Create and communicate an Incident Action Plan (IAP)	2-2	
3.	Recognize and communicate the need for additional resources	2-3	
4.	Support an operations- or technician-level incident	2-4	
5.	Recognize incident hazards and initiate isolation procedures	2-5	
6.	Establish fire protection	2-6	
7.	Isolate potentially harmful energy sources including propulsion power	2-7	
8.	Isolate potentially harmful energy sources including restraint systems	2-7	
9.	Isolate potentially harmful energy sources including construction materials	2-7	
10.	Stabilize a vehicle using chocks (or equivalent)	3-1	
11.	Stabilize a vehicle using cribbing (or equivalent)	3-1	
12.	Stabilize a vehicle using struts (or equivalent)	3-1	
13.	Stabilize a vehicle using air bags	3-1	
14.	Stabilize a vehicle using cables, chains, ropes, or slings	3-1	
15.	Stabilize a vehicle using specialized heavy equipment	3-1	
16.	Stabilize a vehicle by marrying/joining together a vehicle and another vehicle or object	3-1	
17.	Lift a vehicle using air bags	4-1	
18.	Lift a vehicle using struts	4-1	
19.	Coordinate lifting or moving a vehicle using heavy equipment	4-2	

20.	Capture a load using struts	4-1	
21.	Capture a load using cribbing	4-1	
22.	Determine access and egress points for victim rescue	5-1	
23.	Create access and egress openings by removing glass	5-2	
24.	Create access and egress openings by removing a door (Each student must cut or spread at least one time)	5-2	
25.	Create access and egress openings by removing a roof (Each student must cut or spread at least one time)	5-2	
26.	Create access and egress openings by displacing a dash using the lift technique	5-2	
27.	Create access and egress openings by displacing a dash using the roll technique	5-2	
28.	Operate a cutter *	5-2	
29.	Operate a spreader *	5-2	
30.	Operate a ram *	5-2	
31.	Operate a strut system *	3-1	
32.	Operate an air bag system *	3-1	
33.	Evaluate a victim's EMS needs	6-1	
34.	Disentangle a victim	6-1	
35.	Package a victim for removal	6-2	
36.	Remove a victim to a designated safe area	6-2	
37.	Describe how to terminate an incident	7-1	
Optional Skills		Course Plan Topic	Evaluator Initials
38.	Create access and egress openings by tunneling	5-2	
39.	Create access and egress openings through the floor pan	5-2	
40.	Create access and egress openings by displacing a seat	5-2	
41.	Create access and egress openings by displacing the pedals	5-2	

A candidate has successfully completed the skill when they perform it to the corresponding Terminal Learning Objective standard found in State Fire Training's Heavy Vehicle Rescue Technician (2021) course.

SFT Course ID:

Course Delivery Date:

Instructor of Record:

Instructor SFT ID Number:

Draft

Heavy Vehicle Rescue Technician

(NFPA 1006: Heavy Vehicle Rescue
Awareness/Operations/Technician)

Instructor Task Book (2021)



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

Overview

Authority

This instructor task book includes the training standards set forth in:

- NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)

Published: Month Year

Published by: State Fire Training, PO Box 944246, Sacramento, CA 94244-2460

Cover photo courtesy of San Bernardino County Fire Department.

Purpose

The State Fire Training instructor task book is a performance-based document. It lists the minimum requirements a candidate must meet in order to teach a specific State Fire Training course or course series.

Assumptions

With the exception of 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 initiates the task book.

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 for 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 three years of its initiation date. Otherwise, a candidate must initiate a new task book using the curriculum's current published version.

Roles and Responsibilities

Candidate

The candidate is the individual pursuing instructor registration.

Initiation

The candidate shall:

1. Complete the Initiation Requirements section.
 - Please print.
2. Complete a block on the Signature Verification page with a handwritten signature.

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 the Completion Requirements section.
3. Sign and date the Candidate verification section on the Review and Approval page with a handwritten signature.
4. Obtain their fire chief's handwritten (not stamped) signature on the Fire Chief verification section on the Review and Approval page.
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).

A qualified evaluator is a Heavy Vehicle Rescue Technician Registered Instructor designated by the candidate's fire chief (or authorized designee). If no such evaluator is present within the organization, the fire chief (or authorized designee) shall designate an individual with more experience than the candidate and a demonstrated ability to execute the job performance requirements. For instructor task books that do not require fire chief initiation, academy instructors serve as or designate evaluators.

An instructor 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 instructor task book requirements and responsibilities.
3. Verify the candidate's successful completion of one or more job performance requirements through observation.
 - Do not evaluate any job performance requirement (JPR) until after the candidate initiates the task book.
 - Sign all appropriate lines in the instructor task book with a handwritten signature or approved digital signature (e.g., DocuSign or Adobe Sign; a scanned copy of a signature is not acceptable) to record demonstrated performance of tasks.

Fire Chief

The fire chief is the individual who initiates (when applicable) and then reviews and confirms the completion of a candidate's instructor 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 instructor task book requirements and responsibilities.
2. Complete a block on the Signature Verification page with a handwritten signature.
3. 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:

1. A copy of the completed task book (candidate may retain the original)
2. All supporting documentation
3. Payment

State Fire Training
Attn: Instructor Registration
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 career 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 instructor task book is one step in the instructor registration process. Please refer to the *State Fire Training Procedures Manual* for the complete list of qualifications required to teach Heavy Vehicle Rescue Technician.

Initiation Requirements

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

Candidate Information

Name: _____

SFT ID Number: _____

Fire Agency: _____

Initiation Date: _____

Prerequisites

The candidate meets the following prerequisites.

1. OSFM Instructor 1, Training Instructor I, or Fire Instructor I certification or an SFT Registered Instructor
2. OSFM Fire Fighter 1 certification

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

Education

That candidate has completed the following courses.

1. Common Passenger Vehicle Rescue Technician (2021) **or** Vehicle Extrication (2015) **or** Auto Extrication (1996)
2. Heavy Vehicle Rescue Technician (2021)

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

Fire Chief Approval

State Fire Training confirms that a fire chief's approval is not required to initiate this task book.

Signature Verification

The following individuals have the authority to verify portions of this instructor 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: _____

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

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

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

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

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

Job Performance Requirements

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 Programs (ARTP).

Each JPR shall be evaluated after the candidate initiates the task book.

Each task must be performed twice.

- The two instances must occur during two different courses.
- The same evaluator cannot sign off on the same task twice.

Examples of correct and incorrect evaluation:

Correct: Task completed during two separate courses and evaluated by two separate individuals.

1. Assemble a comprehensive burn plan ("burn book") that contains all documentation necessary to conduct a live fire training evolution in accordance with NFPA standards and the policies and procedures of State Fire Training (SFT) and the authority having jurisdiction (AHJ).	1 st Evaluation			2 nd Evaluation		
	Course Code	Date	Initials	Course Code	Date	Initials
a. Describe purpose of a live fire burn plan	AAA123	2/8/18	JAS	BBB123	5/15/18	CWJ
b. Identify components of a live fire burn plan ("burn book")	AAA123	2/8/18	JAS	BBB123	5/15/18	CWJ
c. Identify records-retention requirements for burn plans	AAA123	2/8/18	JAS	BBB123	5/15/18	CWJ

Incorrect: Task completed twice during one course but evaluated by two separate individuals.

1. Assemble a comprehensive burn plan (“burn book”) that contains all documentation necessary to conduct a live fire training evolution in accordance with NFPA standards and the policies and procedures of State Fire Training (SFT) and the authority having jurisdiction (AHJ).	1 st Evaluation			2 nd Evaluation		
	Course Code	Date	Initials	Course Code	Date	Initials
a. Describe purpose of a live fire burn plan	AAA123	2/8/18	JAS	AAA123	2/8/18	CWJ
b. Identify components of a live fire burn plan (“burn book”)	AAA123	2/8/18	JAS	AAA123	2/8/18	CWJ
c. Identify records-retention requirements for burn plans	AAA123	2/8/18	JAS	AAA123	2/8/18	CWJ

Incorrect: Task completed during two separate courses but evaluated by the same individual.

1. Assemble a comprehensive burn plan (“burn book”) that contains all documentation necessary to conduct a live fire training evolution in accordance with NFPA standards and the policies and procedures of State Fire Training (SFT) and the authority having jurisdiction (AHJ).	1 st Evaluation			2 nd Evaluation		
	Course Code	Date	Initials	Course Code	Date	Initials
a. Describe purpose of a live fire burn plan	AAA123	2/8/18	JAS	BBB123	5/15/18	JAS
b. Identify components of a live fire burn plan (“burn book”)	AAA123	2/8/18	JAS	BBB123	5/15/18	JAS
c. Identify records-retention requirements for burn plans	AAA123	2/8/18	JAS	BBB123	5/15/18	JAS

Heavy Vehicle Rescue Technician Instructor

1. Incident Response	1st Evaluation			2nd Evaluation		
	Course Code	Date	Initials	Course Code	Date	Initials
a. Demonstrate how to select and don appropriate PPE						
b. Demonstrate how to size up an incident						
c. Demonstrate how to create and communicate an Incident Action Plan (IAP)						
d. Describe how to recognize and communicate the need for additional resources						
e. Describe how to support an operations- or technician-level incident						
f. Demonstrate how to establish scene safety zones						
g. Describe how to recognize hazards and communicate isolations procedures						
h. Demonstrate how to establish fire protection						
i. Describe how to manage potentially harmful energy sources						
j. Describe how to mitigate hazards associated with alternative fuel vehicles						
2. Vehicle Stabilization (Must have a vehicle to complete these tasks.)	1st Evaluation			2nd Evaluation		
	Course Code	Date	Initials	Course Code	Date	Initials
a. Demonstrate how to stabilize a vehicle on its wheels						
b. Demonstrate how to stabilize a vehicle on its side						
c. Demonstrate how to stabilize a vehicle on its roof						

d. Demonstrate how to stabilize a vehicle in a multi-hazard configuration						
e. Demonstrate how to stabilize a vehicle using chocks (or equivalent)						
f. Demonstrate how to stabilize a vehicle using cribbing (or equivalent)						
g. Demonstrate how to stabilize a vehicle using struts (or equivalent)						
h. Demonstrate how to stabilize a vehicle using cables, chains, ropes, or slings						
i. Demonstrate how to stabilize a vehicle using specialized heavy equipment						
j. Demonstrate how to stabilize a vehicle by marrying/joining together a vehicle and another vehicle or object						
3. Access and Egress	1st Evaluation			2nd Evaluation		
	Course Code	Date	Initials	Course Code	Date	Initials
a. Describe how to determine access and egress points for a victim rescue						
b. Demonstrate glass management techniques						
c. Demonstrate a hinge side door removal						
d. Demonstrate a latch side door removal						
e. Demonstrate a sidewall door removal						
f. Demonstrate a third door conversion						
g. Demonstrate how to create a roof flap						
h. Demonstrate a complete roof removal						

i. Demonstrate dash displacement using the lift technique						
j. Demonstrate dash displacement using the roll technique						
k. Demonstrate how to create access and egress openings by tunneling						
l. Demonstrate how to create access and egress openings through the floor pan						
m. Demonstrate how to create access and egress openings by displacing a seat						
n. Demonstrate how to create access and egress openings by displacing the pedals						
o. Operate a cutter						
p. Operate a spreader						
q. Operate a ram						
r. Operate a strut system						
s. Operate an air bag system						
4. Lifting and Moving	1st Evaluation			2nd Evaluation		
	Course Code	Date	Course Code	Date	Course Code	Date
a. Demonstrate how to lift a heavy vehicle						
b. Demonstrate how to coordinating heavy equipment to lift, move, or stabilize a heavy vehicle						
5. Emergency Medical Services/Victim Rescue	1st Evaluation			2nd Evaluation		
	Course Code	Date	Initials	Course Code	Date	Initials
a. Demonstrate how to provide for victim safety						
b. Demonstrate how to evaluate a victim's EMS need						

c. Demonstrate how to disentangle a victim						
d. Demonstrate how to package a victim for removal						
e. Demonstrate how to remove a victim to a designated space area						
6. Incident Termination	1st Evaluation			2nd Evaluation		
	Course Code	Date	Initials	Course Code	Date	Initials
a. Demonstrate how to conduct a post-incident analysis						
b. Demonstrate decontamination procedures						
c. Demonstrate how to conduct required notifications						
d. Demonstrate how to complete required documentation <ul style="list-style-type: none"> • NFIRS Report • Injury Report • Tool Log 						
e. Demonstrate tool and equipment rehabilitation						

Completion Requirements

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

Experience

- Have a minimum of three years' full-time or six years' volunteer or part-time paid suppression/rescue experience in a recognized fire agency in California

Agency	Experience	Start Date	End Date

Position

State Fire Training confirms that there are no position requirements for instructor registration.

Updates

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

Number of enclosed updates: _____

Completion Timeframe

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

Initiation Date (see Initiation Date under Initiation Requirements): _____

Review and Approval

Candidate

Candidate (please print): _____

I, the undersigned, am the person applying to teach Heavy Vehicle Rescue Technician. 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 to teach Heavy Vehicle Rescue Technician. 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: _____



Heavy Vehicle Rescue Technician (2021) Interim Procedures

Issued: **Month** 2022

Procedure Changes

Edition: May 2022 edition of the *State Fire Training Procedures Manual*

Effective Date: **Month**, **##**, 2022 (anticipated)

Section Changes: Modify and update the following sections:

- **6.11.11: Fire Fighting and Rescue Instructor**

Justification: Following approval by the State Board of Fire Services (SBFS), a new Heavy Vehicle Rescue (2021) curriculum will go into effect on January 1, 2023.

SFT Contact: SFT Staff assigned to Instructor Registration.

Note: Using the May 2022 edition of the State Fire Training Procedures Manual:

- Update Section 6.11.11.

6.11.11: FIRE FIGHTING AND RESCUE INSTRUCTOR

6.11.11.1: Eligible Courses

Table 6.11.11.1: Fire Fighting and Rescue Instructor Eligible Courses

CFSTES Courses	FSTEP Courses
<ul style="list-style-type: none"> • None 	<ul style="list-style-type: none"> • Aircraft Rescue and Firefighting Awareness • Common Passenger Vehicle Rescue Technician (2021) • Confined Space Rescue Awareness • Fire Fighter Survival • Heavy Vehicle Rescue Technician (2021) • Incident Safety Awareness for Hired Vendors • Low Angle Rope Rescue Operational (LARRO) • Open Water Rescuer – Basic • Open Water Rescue Boat Operator – Small Vessel • Open Water Rescue Boat Operator – Large Vessel • Personal Watercraft Operations • Rapid Intervention Crew (RIC) Operations • Rescue Boat Operations • River and Flood Water Rescue • River/Flood Rescue Technician • River and Flood Rescue Boat Technician (2019) • Trench Rescue

6.711.911.2: General Qualifications

- A. A Registered Primary Instructor for a Fire Service Training and Education Program (FSTEP) Fire Fighting and Rescue course shall meet the following the qualifications required of all State Fire Training (SFT) Registered Primary Instructors.
1. See **6.2.1: Qualifications.**

6.711.911.3: Course Work

- A. Attending and passing SFT’s Confined Space Rescue Technician course meets the requirement for attending and passing Confined Space Rescue Awareness.
- B. Registered Low Angle Rope Rescue Operational Instructors must have attended and passed ICS-200: Basic ICS.
- C. Attending and passing SFT’s Auto Extrication (1996) or Vehicle Extrication (2015) course meets the requirement for attending and passing Vehicle Extrication Common Passenger Vehicle Rescue (2021)

- D. Incident Safety Awareness for Hired Vendors instructors must have attended and passed Incident Safety Awareness for Hired Vendors (2018); Introduction to Incident Command System (ICS-100); Firefighter Training (S-130); Introduction to Wildland Fire Behavior (S-190); Intermediate Wildland Fire Behavior (S-290); Human Factors in the Wildland Fire Service (L-180); ICS for Single Resources and Initial Action Incidents (IS-200.B); and National Incident Management System - An Introduction (NIIMS 700.A).

6.711.911.4: Teaching Experience

- A. It is recommended that a new instructor for SFT’s Incident Safety Awareness for Hired Vendors co-teach with a primary instructor during their first course presentation.

6.711.911.5: Professional Experience

- A. A Registered Primary Instructor for an FSTEP Fire Fighting and Rescue course shall meet the professional experience qualifications listed below.
1. Performing in an “acting” capacity does not qualify.

Table 6.11.11.5: Fire Fighting and Rescue Instructor Professional Experience

FSTEP Course	Experience
<ul style="list-style-type: none"> • Aircraft Rescue and Firefighting Awareness 	<ul style="list-style-type: none"> • Held the rank of Fire Fighter and/or performed rescue duties within a recognized fire agency in California for a minimum of three (3) years; or worked in a volunteer position or paid call firefighter with a Recognized Fire Agency in California for a minimum of five (5) years. • Have a minimum of three years’ experience within a recognized fire agency in California in the field of aircraft rescue and fire fighting
<ul style="list-style-type: none"> • Confined Space Rescue Awareness • Low Angle Rope Rescue Operational 	<ul style="list-style-type: none"> • Held the rank of Fire Fighter and/or performed rescue duties within a recognized fire agency in California for a minimum of two (2) years
<ul style="list-style-type: none"> • Low Angle Rope Rescue Operational • Open Water Rescuer - Basic • Personal Watercraft Operations • Rescue Boat Operations • River and Flood Water Rescue • Trench Rescue 	<ul style="list-style-type: none"> • Held the rank of Fire Fighter and/or performing suppression/rescue duties within a recognized fire agency in California for a minimum of two (2) years

Interim Procedures
Heavy Vehicle Rescue Technician (2021)

<ul style="list-style-type: none"> Incident Safety Awareness for Hired Vendors 	<p>Letter verifying the following experience:</p> <ul style="list-style-type: none"> Minimum of five (5) years' full-time paid experience in a federal, state, local, or provincial fire agency and holds the rank of Company Officer Has responded as a Single Resource or Overhead assignment which has gone through a check-in, briefing, and demobilization (completed a Shift Ticket) process on a campaign fire Has working knowledge, skills, and abilities performing within Incident Command Has been assigned to an incident within the last five (5) years (Red Card currency)
<ul style="list-style-type: none"> Rapid Intervention Crew (RIC) Operations Fire Fighter Survival 	<ul style="list-style-type: none"> Have five (5) years suppression/rescue experience, of which two (2) years must be while holding the rank of Fire Fighter performing suppression/rescue duties within a recognized fire agency in California
<ul style="list-style-type: none"> Open Water Rescue Boat Operator – Small Vessel Open Water Rescue Boat Operator – Large Vessel River and Flood Rescue Boat Technician 	<ul style="list-style-type: none"> Held the rank of Fire Fighter and/or performed rescue duties within a recognized fire agency in California for a minimum of three (3) years; or worked in a volunteer position or paid call Fire Fighter with a Recognized Fire Agency in California for a minimum of five (5) years. Specific expertise in Technical Rescue as it relates to Open Water Search and Rescue Boat Operations and Seamanship. Expertise must be relative to the size of the vessel and power configuration and qualify based on the scope required for the curriculum chosen to facilitate.
<ul style="list-style-type: none"> River and Flood Rescue Technician 	<ul style="list-style-type: none"> Held the rank of Fire Fighter and/or performed rescue duties within a recognized fire agency in California for a minimum of two (2) years; or worked in a volunteer position or paid call Fire Fighter with a Recognized Fire Agency in California for a minimum of four (4) years.
<ul style="list-style-type: none"> Common Passenger Vehicle Rescue Technician (2021) Heavy Vehicle Rescue Technician (2021) 	<ul style="list-style-type: none"> Have a minimum of three (3) years' full-time or six (6) years' part-time/volunteer suppression/rescue experience within a recognized fire agency in California

6.711.911.6: Task Book

- A. Common Passenger Vehicle Rescue Technician (2021)
 - 1. An Instructor applicant for Common Passenger Vehicle Rescue Technician (2021) shall complete the Common Passenger Vehicle Rescue Technician Instructor Task Book (2021).

 - B. Fire Fighter Survival
 - 1. An Instructor applicant for Fire Fighter Survival shall complete the appropriate instructor trainee task book.
 - 2. A Registered Fire Fighter Survival Primary Instructor must sign off on the applicant's task book within two (2) years of its initiation.

 - C. Heavy Vehicle Rescue Technician (2021)
 - 1. An Instructor applicant for Heavy Vehicle Rescue Technician (2021) shall complete the Heavy Vehicle Rescue Technician Instructor Task Book (2021).

 - D. Low Angle Rope Rescue Operational
 - 1. An Instructor applicant for Low Angle Rope Rescue Operational (LARRO) shall complete the appropriate Instructor Trainee Task Book.
 - 2. A Registered LARRO Primary Instructor must sign off on the applicant's Task Book within two (2) years of its initiation.

 - E. Rapid Intervention Crew Operations
 - 1. An Instructor applicant for Rapid Intervention Crew Operations shall complete the appropriate Instructor Trainee Task Book.
 - 2. A Registered Rapid Intervention Crew Operations Primary Instructor must sign off on the applicant's Task Book within two (2) years of its initiation.
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6.711.911: FIRE FIGHTING AND RESCUE INSTRUCTOR

6.711.911.1: Eligible Courses

Table 6.711.911.1: Fire Fighting and Rescue Instructor Eligible Courses

CFSTES Courses	FSTEP Courses
<input type="checkbox"/> None	<input type="checkbox"/> Aircraft Rescue and Firefighting Awareness <input type="checkbox"/> Command and Control of the RIC Deployment <input type="checkbox"/> Common Passenger Vehicle Rescue Technician (2021) <input type="checkbox"/> Confined Space Rescue Awareness <input type="checkbox"/> Emergency Response to Alternative Fuels <input type="checkbox"/> Fire Fighter Survival <input type="checkbox"/> Fireline Safety for the Hired Vendor <input type="checkbox"/> Heavy Vehicle Rescue Technician (2021) <input type="checkbox"/> Incident Safety Awareness for Hired Vendors <input type="checkbox"/> Large Animal Rescue Operational <input type="checkbox"/> Low Angle Rope Rescue Operational (LARRO) <input type="checkbox"/> Open Water Rescuer – Basic <input type="checkbox"/> Open Water Rescue Boat Operator – Small Vessel <input type="checkbox"/> Open Water Rescue Boat Operator – Large Vessel <input type="checkbox"/> Personal Watercraft Operations <input type="checkbox"/> Rapid Intervention Crew (RIC) Operations <input type="checkbox"/> Rescue Boat Operations <input type="checkbox"/> River and Flood Water Rescue <input type="checkbox"/> River/Flood Rescue Technician <input type="checkbox"/> River and Flood Rescue Boat Technician (2019) <input type="checkbox"/> Tire Fire Prevention and Suppression <input type="checkbox"/> Trench Rescue <input type="checkbox"/> Vehicle Extrication

6.711.911.2: General Qualifications

- A. A Registered Primary Instructor for a Fire Service Training and Education Program (FSTEP) Fire Fighting and Rescue course shall meet the following the qualifications required of all State Fire Training (SFT) Registered Primary Instructors.
1. See 6.2.1: Qualifications.

6.711.911.3: Course Work

- A. Attending and passing SFT’s Confined Space Rescue Technician course meets the requirement for attending and passing Confined Space Rescue Awareness.
- B. Registered Low Angle Rope Rescue Operational Instructors must have attended and passed ICS-200: Basic ICS.
- C. Attending and passing SFT’s Auto Extrication (1996) or **Vehicle Extrication (2015)** course meets the requirement for attending and passing **Vehicle Extrication Common Passenger Vehicle Rescue (2021)**.
- D. **Incident Safety Awareness for Hired Vendors instructors must have attended and passed Incident Safety Awareness for Hired Vendors (2018); Introduction to Incident Command System (ICS-100); Firefighter Training (S-130); Introduction to Wildland Fire Behavior (S-190); Intermediate Wildland Fire Behavior (S-290); Human Factors in the Wildland Fire Service (L-180); ICS for Single Resources and Initial Action Incidents (IS-200.B); and National Incident Management System - An Introduction (NIIMS 700.A).**

6.711.911.4: Teaching Experience

- A. **In order to teach Command and Control of the RIC Deployment, the Registered Instructor must have previously assisted another Registered Instructor in teaching the course at least once.**
 - 1. **The Registered Instructor applicant shall submit to SFT a letter from a Registered Instructor verifying this requirement.**
- A. **It is recommended that a new instructor for SFT’s Incident Safety Awareness for Hired Vendors co-teach with a primary instructor during their first course presentation.**

6.711.911.5: Professional Experience

- A. A Registered Primary Instructor for an FSTEP Fire Fighting and Rescue course shall meet the professional experience qualifications listed below.
 - 1. Performing in an “acting” capacity does not qualify.

Table 6.711.911.5: Fire Fighting and Rescue Instructor Professional Experience

FSTEP Course	Experience
<input type="checkbox"/> Aircraft Rescue and Firefighting Awareness	<input type="checkbox"/> Held the rank of Fire Fighter and/or performed rescue duties within a recognized fire agency in California for a minimum of three (3) years; or worked in a volunteer position or paid call firefighter with a Recognized Fire Agency in California for a minimum of five (5) years.

STEP Course	Experience
<ul style="list-style-type: none"> <input type="checkbox"/> Confined Space Rescue Awareness <input type="checkbox"/> Low Angle Rope Rescue Operational <input type="checkbox"/> Personal Watercraft Operations <input type="checkbox"/> Rescue Boat Operations <input type="checkbox"/> River and Flood Water Rescue <input type="checkbox"/> Trench Rescue 	<ul style="list-style-type: none"> <input type="checkbox"/> Have a minimum of three years' experience within a recognized fire agency in California in the field of aircraft rescue and fire fighting <input type="checkbox"/> Held the rank of Fire Fighter and/or performed rescue duties within a recognized fire agency in California for a minimum of two (2) years
<ul style="list-style-type: none"> <input type="checkbox"/> Emergency Response to Alternative Fuels <input type="checkbox"/> Fireline Safety for the Hired Vendor <input type="checkbox"/> Large Animal Rescue Operational <input type="checkbox"/> Low Angle Rope Rescue Operational <input type="checkbox"/> Open Water Rescuer - Basic <input type="checkbox"/> Personal Watercraft Operations <input type="checkbox"/> Rescue Boat Operations <input type="checkbox"/> River and Flood Water Rescue <input type="checkbox"/> Tire Fire Prevention and Suppression <input type="checkbox"/> Trench Rescue 	<ul style="list-style-type: none"> <input type="checkbox"/> Held the rank of Fire Fighter and/or performing suppression/rescue duties within a recognized fire agency in California for a minimum of two (2) years
<ul style="list-style-type: none"> <input type="checkbox"/> Command and Control of RIC Deployment 	<p>One of the following:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Held the rank of Suppression Officer within a recognized fire agency in California for a minimum of three years <input type="checkbox"/> Worked as a volunteer Suppression Officer or paid Call Officer within a recognized fire agency in California for a minimum of five years
<ul style="list-style-type: none"> <input type="checkbox"/> Incident Safety Awareness for Hired Vendors 	<p>Letter verifying the following experience:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Minimum of five (5) years' full-time paid experience in a federal, state, local, or provincial fire agency and holds the rank of Company Officer <input type="checkbox"/> Has responded as a Single Resource or Overhead assignment which has gone through a check-in, briefing, and demobilization (completed a Shift Ticket) process on a campaign fire <input type="checkbox"/> Has working knowledge, skills, and abilities performing within Incident Command

Interim Procedures
Heavy Vehicle Rescue Technician (2021)

SFT Procedures Manual

6: Instructors

FSTEP Course	Experience
<input type="checkbox"/> Rapid Intervention Crew (RIC) Operations <input type="checkbox"/> Fire Fighter Survival	<input type="checkbox"/> Has been assigned to an incident within the last five (5) years (Red Card currency) <input type="checkbox"/> Have five (5) years suppression/rescue experience, of which two (2) years must be while holding the rank of Fire Fighter performing suppression/rescue duties within a recognized fire agency in California
<input type="checkbox"/> Open Water Rescue Boat Operator – Small Vessel <input type="checkbox"/> Open Water Rescue Boat Operator – Large Vessel <input type="checkbox"/> River and Flood Rescue Boat Technician	<input type="checkbox"/> Held the rank of Fire Fighter and/or performed rescue duties within a recognized fire agency in California for a minimum of three (3) years; or worked in a volunteer position or paid call Fire Fighter with a Recognized Fire Agency in California for a minimum of five (5) years. <input type="checkbox"/> Specific expertise in Technical Rescue as it relates to Open Water Search and Rescue Boat Operations and Seamanship. Expertise must be relative to the size of the vessel and power configuration and qualify based on the scope required for the curriculum chosen to facilitate.
<input type="checkbox"/> River and Flood Rescue Technician	<input type="checkbox"/> Held the rank of Fire Fighter and/or performed rescue duties within a recognized fire agency in California for a minimum of two (2) years; or worked in a volunteer position or paid call Fire Fighter with a Recognized Fire Agency in California for a minimum of four (4) years.
<input type="checkbox"/> Vehicle Extrication <input type="checkbox"/> Common Passenger Vehicle Rescue Technician (2021) <input type="checkbox"/> Heavy Vehicle Rescue Technician (2021)	<input type="checkbox"/> Have a minimum of three (3) years' full-time or six (6) years' part-time/volunteer suppression/rescue experience performing suppression/rescue duties within a recognized fire agency in California

6.711.911.6: Task Book

A. Common Passenger Vehicle Rescue Technician (2021)

1. An Instructor applicant for Common Passenger Vehicle Rescue Technician (2021) shall complete the Common Passenger Vehicle Rescue Technician Instructor Task Book (2021).

B. Fire Fighter Survival

1. An Instructor applicant for Fire Fighter Survival shall complete the appropriate instructor trainee task book.
2. A Registered Fire Fighter Survival Primary Instructor must sign off on the applicant's task book within two (2) years of its initiation.

C. Heavy Vehicle Rescue Technician (2021)

1. An Instructor applicant for Heavy Vehicle Rescue Technician (2021) shall complete the Heavy Vehicle Rescue Technician Instructor Task Book (2021).

D. Low Angle Rope Rescue Operational

1. An Instructor applicant for Low Angle Rope Rescue Operational (LARRO) shall complete the appropriate Instructor Trainee Task Book.
2. A Registered LARRO Primary Instructor must sign off on the applicant's Task Book within two (2) years of its initiation.

E. Rapid Intervention Crew Operations

1. An Instructor applicant for Rapid Intervention Crew Operations shall complete the appropriate Instructor Trainee Task Book.
2. A Registered Rapid Intervention Crew Operations Primary Instructor must sign off on the applicant's Task Book within two (2) years of its initiation.