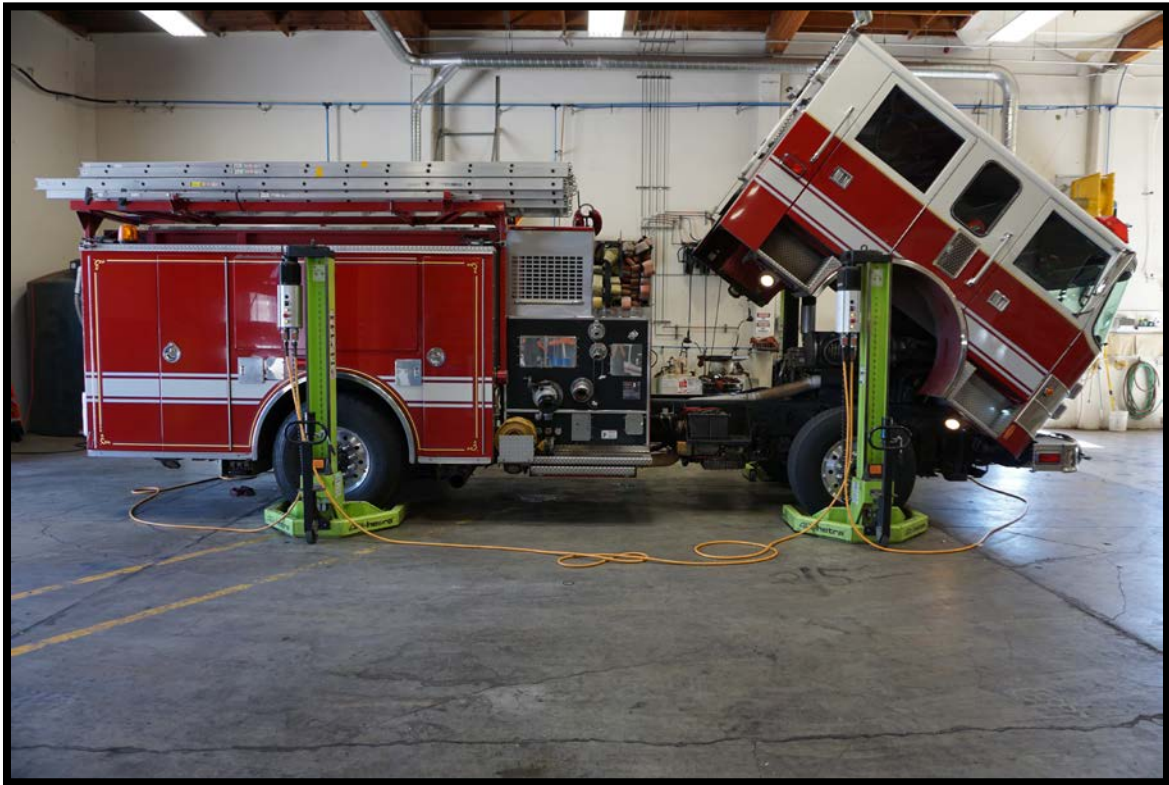


Emergency Vehicle Technician 3

Certification Training Standards Guide (2020)



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

Emergency Vehicle Technician 3

Certification Training Standards Guide (2020)

This CTS guide utilizes NFPA 1071 Standard for Emergency Vehicle Technician Professional Qualifications (2020) to provide the qualifications for State Fire Training's Emergency Vehicle Technician certification.

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).

Published by State Fire Training.

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Cover photo courtesy of Lawrence Achen, Central Fire Protection District, Santa Cruz, CA

Table of Contents

State Fire Training	1
Acknowledgments.....	2
How to Read a CTS Guide.....	4
Emergency Vehicle Technician 3	6
Section 1: Definition of Duties	6
1-1: Definition of Duties for an Emergency Vehicle Technician 3	6
Section 11: Human Resource Management and Evaluation	7
11-1: Assigning Tasks or Responsibilities	7
11-2: Conducting Individual Technician Training	8
11-3: Evaluating Technician Performance	9
11-4: Recommending, Specifying, and Enforcing Discipline.....	10
11-5: Recommending and Enforcing Safety Policies and Procedures.....	11
11-6: Monitoring Environmental Safety Compliance.....	12
Section 12: Quality Control and Inspection	13
12-1: Inspecting Completed Vehicles.....	13
12-2: Monitoring Outsourced Repairs	14
Section 13: Equipment and Parts Management	15
13-1: Monitoring Inventory Levels.....	15
13-2: Ordering Parts.....	16
Section 14: Documentation	17
14-1: Preparing Estimates	17
14-2: Adhering to Repair and Maintenance Schedules	18
14-3: Documenting Warranty Repairs	19
14-4: Creating Work Orders	20
14-5: Validating Maintenance Records	21
Section 15: Apparatus Specifications	22
15-1: Developing Apparatus Specifications	22
State Fire Training Content.....	23
Errata.....	31

State Fire Training

Mission

To enable the California Fire Service to safely protect life and property through education, training, and certification.

The California Fire Services Training and Education System

The California Fire Service Training and Education System (CFSTES) was established to provide a single statewide focus for fire service training in California. CFSTES is a composite of all the elements that contribute to the development, delivery, and administration of training for the California fire service. The authority for the central coordination of this effort is vested in the Training Division of the California State Fire Marshal's Office with oversight provided by the State Board of Fire Services.

CFSTES facilitates, coordinates, and assists in the development and implementation of standards and certification for the California fire service. CFSTES:

1. Administers the California Fire Academy System
2. Provides accredited courses leading to certification and approved standardized training programs for local and regional delivery
3. Administers the national accreditation process in California
4. Publishes certification training standards, course plans, and a capstone task book for each certified level in the California fire service

CFSTES is a fire service system developed by the fire service, for the fire service. It is only as successful and effective as the people involved in it.

Acknowledgments

State Fire Training appreciates the hard work and accomplishments of those who built the solid foundation on which this program continues to grow.

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Emergency Vehicle Technician 3

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Partners

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How to Read a CTS Guide

State Fire Training develops a Certification Training Standards (CTS) Guide for a variety of job functions in the fire service such as firefighter, driver/operator, fire instructor, and company officer. The CTS guide lists the requisite knowledge and skills and the job performance requirements a person is expected to complete in order to become certified in a specific function. CTS guides are appropriate for fire service personnel and individuals in related occupations pursuing State Fire Training certification.

Each CTS guide serves as a foundation for the certification programs recommended for adoption by the Office of the State Fire Marshal. Any certification program must be based on job-related knowledge and measurable performance standards. To master the knowledge and skills needed for specialized operations, individuals will require additional training to augment the performance standards included in the CTS guide.

Within the CTS guide, it is impossible to capture the different policies and procedures of each organization in the California fire service. 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 departments or jurisdictions.

Format

Each certification training standard included in the CTS guide includes the following:

Section Heading

The section heading describes a general category for a group of training standards. For example, the Fire Marshal CTS includes the following sections: Administration, Risk Management, Community Relations, Professional Development, Regulatory Programs, Fire and Life Safety, and Investigation. Each section contains one or more individual training standards.

Training Standard Title

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

Authority

The CTS guide references each 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.

Emergency Vehicle Technician 3

How to Read a CTS Guide

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*.

Given

This section lists the objects, equipment, materials, or facilities an individual needs in order to acquire the requisite knowledge and skills or to accomplish the job performance requirement(s) within a training standard.

Requisite Knowledge and Skills

This section lists the knowledge and skills that an individual must acquire in order to accomplish the job performance requirement(s) within a training standard.

This section does not include NFPA requisite knowledge or skills that are too general to teach or that individuals should develop through life experiences. For example, a training standard would not list “communicate orally and in writing” or “ability to relate interpersonally” unless they specifically apply to a job performance requirement about acquiring communication skills or developing interpersonal relationships.

Job Performance Requirements

This section includes one or more written statements that describe a specific job-related task and define measurable or observable outcomes. After an individual completes all coursework and requisite requirements, the capstone task book process verifies completion of job performance requirements.

Content

In addition to the individual certification training standards, the CTS guide also includes State Fire Training Revisions and Errata pages.

State Fire Training Content

Located at the back of the CTS guide, this table documents any significant revisions made by State Fire Training to the NFPA standards in the development of this CTS guide. This table is used to justify content additions and advise the course plan development team.

Errata

Located at the back of the CTS guide, this page documents any changes made to the CTS guide outside of the five-year NFPA revision cycle.

Emergency Vehicle Technician 3

Section 1: Definition of Duties

1-1: Definition of Duties for an Emergency Vehicle Technician 3

Authority

NFPA 1071 Standard for Emergency Vehicle Technician Professional Qualifications (2020)

- Paragraph 4.1.1
- Paragraph 4.1.2
- Paragraph 4.2
- Paragraph 4.3
- Paragraph 4.4
- Paragraph 4.5
- Paragraph 4.6
- Paragraph 4.7 (Not addressed in the Revision 2020)
- Paragraph 4.8 (Not addressed in the Revision 2020)
- Paragraph 4.9 (Was the old 4.7 in the 2016 version)

Given

1. There are no givens identified for this training standard

Requisite Knowledge and Skills

1. Identify the general knowledge requirements associated with the roles of responsibilities of an EVT 1
2. Identify the general skill requirements associated with the roles and responsibilities of an EVT 1
3. Identify the inspection and preventative maintenance duties associated with chassis systems
4. Identify the inspection and maintenance duties associated with cabs (fixed and tilt) and vehicle bodies
5. Identify the operational checks duties associate with a vehicle's electronic and electrical systems (low voltage)
6. Identify the inspection, maintenance, and operational testing duties associated with at least one of the following systems: fire pump, auxiliary pump, and tank systems; aerial systems; or specialized (foam, line-voltage electrical, breathing air, auxiliary air) systems

Job Performance Requirements

There are no job performance requirements identified for this training standard.

Section 11: Human Resource Management and Evaluation

11-1: Assigning Tasks or Responsibilities

Authority

NFPA 1071 Standard for Emergency Vehicle Technician Professional Qualifications (2020)

- Paragraph 6.2.1

Given

1. A work order
2. An *apparatus*
3. Work space
4. Required tools, equipment, and parts

Requisite Knowledge and Skills

1. *Identify the* function, construction, and operation of vehicles and systems
2. *Identify* required testing
3. *Identify* required record-keeping and documentation
4. *Identify* common deficiencies
5. *Identify* repair procedures
6. *Identify* testing procedures
7. *Identify apparatus* safety requirements
8. *Identify* skill levels of assigned technicians
9. *Identify* agency priorities
10. *Identify* available resources
11. *Communicate* verbally and in writing
12. *Evaluate technician* performance

Job Performance Requirements

Assign tasks or responsibilities to technicians so that the instructions are complete, clear, and concise; safety considerations are addressed; and the work is completed and within the scheduled time.

11-2: Conducting Individual Technician Training

Authority

NFPA 1071 Standard for Emergency Vehicle Technician Professional Qualifications (2020)

- Paragraph 6.2.2

Given

1. *An apparatus*
2. An assignment
3. A workspace
4. All necessary tools

Requisite Knowledge and Skills

1. *Identify the* function, operation, and construction of component
 2. *Identify* applicable standards
 3. *Identify* manufacturer specifications
 4. *Identify* recommended procedures
 5. *Determine* the technician's capability
1. Research, communicate, and deliver training material based on methods and practices
 2. Evaluate the results

Job Performance Requirements

Conduct individual training for technicians so that the technician understands the procedure and is able to demonstrate proficiency at the given task.

11-3: Evaluating Technician Performance

Authority

NFPA 1071 Standard for Emergency Vehicle Technician Professional Qualifications (2020)

- Paragraph 6.2.3.1

Given

1. A time record
2. Pertinent work orders
3. Evaluation forms

Requisite Knowledge and Skills

1. *Identify* allowable repair times
2. *Describe how to evaluate and analyze technician strengths and weaknesses*
3. *Identify* agency policies and procedures
4. *Describe appropriate workplace* behavior
5. *Identify* job descriptions
6. *Describe* goals of the evaluation program
7. *Communicate verbally and in writing*
8. Evaluate *and document* performance

Job Performance Requirements

Provide input on the performance level of the technician so that the abilities and weaknesses of a technician can be determined; required counseling and training can be scheduled to maintain or improve a technician's proficiency; or an issue can be referred to the next level of supervision.

11-4: Recommending, Specifying, and Enforcing Discipline

Authority

NFPA 1071 Standard for Emergency Vehicle Technician Professional Qualifications (2020)

- Paragraph 6.2.3.2

Given

1. Employee history
2. Department SOPs

Requisite Knowledge and Skills

1. *Identify* agency policies and procedures
2. *Demonstrate an* awareness of the situation and the individual involved
3. *Communicate* verbally and in writing
4. Assess employee abilities and attitudes
5. Implement the most effective alternative

Job Performance Requirements

Recommend, specify, and enforce discipline so that the employee is given the guidance necessary to improve or resolve issues.

11-5: Recommending and Enforcing Safety Policies and Procedures

Authority

1. NFPA 1071 Standard for Emergency Vehicle Technician Professional Qualifications (2020)
 - Paragraph 6.2.3.3
2. *Office of the State Fire Marshal*

Given

1. Agency safety policies and procedures
2. Federal, state, local, and industry standards for workplace safety
3. Safety hazards

Requisite Knowledge and Skills

1. Identify agency safety policies and procedures
2. Identify federal, state, local, and industry standards for workplace safety
3. Identify safety hazards
4. Identify safe practices
5. Identify equipment limitations
6. Identify personal protection devices
7. Communicate verbally and in writing
8. *Promote a safe working environment*

Job Performance Requirements

Recommend and enforce safety policies and procedures so that workplace safety is monitored and recommendations for deficiencies are documented.

11-6: Monitoring Environmental Safety Compliance

Authority

NFPA 1071 Standard for Emergency Vehicle Technician Professional Qualifications (2020)

- Paragraph 6.2.3.4

Given

1. Agency policies and procedures
2. Federal, state, and local environmental regulations
3. Material safety data sheets (MSDS)

Requisite Knowledge and Skills

1. *Identify* agency policies and procedures
2. *Identify* federal, state, and local environmental regulations
3. *Identify location and content of material safety data sheets (MSDS)*
4. Communicate verbally and in writing

Job Performance Requirements

Monitor compliance of applicable environmental regulations so that the workplace is in compliance with all required regulations; and all deficiencies are identified and corrected.

Section 12: Quality Control and Inspection

12-1: Inspecting Completed Vehicles

Authority

NFPA 1071 Standard for Emergency Vehicle Technician Professional Qualifications (2020)

- Paragraph 6.3.1.1

Given

1. An *apparatus*
2. A deficiency list
3. Completed tasks
4. Required license

Requisite Knowledge and Skills

1. *Identify the* function, construction, and operation of vehicles and systems
2. *Identify* required testing
3. *Identify* required record-keeping and documentation
4. *Identify* common deficiencies
5. *Identify* repair procedures
6. *Identify* diagnostic checks and performance testing procedures
7. *Identify* vehicle safety requirements and confirm that they are diagnostically checked to manufacturer's specifications
8. Operate *apparatus*
9. *Verify* performance of required tests and checks
10. Use diagnostic equipment and tools
11. Communicate verbally and in writing

Job Performance Requirements

Inspect a completed vehicle so that all deficiencies are repaired; documentation is completed; and the vehicle is tested and diagnostically checked to manufacturer specifications.

12-2: Monitoring Outsourced Repairs

Authority

NFPA 1071 Standard for Emergency Vehicle Technician Professional Qualifications (2020)

- Paragraph 6.3.1.2

Given

1. A completed vehicle
2. A deficiency list
3. A list of completed tasks

Requisite Knowledge and Skills

1. *Identify the* function, construction, and operation of vehicles and systems
2. *Identify vendor* qualifications and limitations
3. *Identify* required diagnostic checks and performance testing
4. *Identify* required record-keeping and documentation
5. *Identify* common deficiencies
6. *Identify* repair procedures
7. *Identify* diagnostic checks and performance testing procedures
8. *Identify* vehicle safety requirements
9. Operate vehicles
10. *Verify* diagnostic checks and performance tests of equipment and tools identified by manufacturer's specifications
11. Use diagnostic equipment and tools
12. Communicate verbally and in writing

Job Performance Requirements

Monitor outsourced repairs so that all repairs are verified; and diagnostic checks are completed and documented

Section 13: Equipment and Parts Management

13-1: Monitoring Inventory Levels

Authority

NFPA 1071 Standard for Emergency Vehicle Technician Professional Qualifications (2020)

- Paragraph 6.4.1

Given

1. Current inventory
2. Agency equipment lists
3. Manufacturer specification
4. A maintenance schedule
5. Previous repair history
6. Manufacturer parts manuals

Requisite Knowledge and Skills

1. *Identify* current suppliers
2. *Evaluate* previous repair history
3. *Identify* agency and purchase policies
4. Determine current needs
5. Use previous repair history to predict future needs

Job Performance Requirements

Monitor inventory levels within the relevant level of responsibility so that the inventory is maintained at the required levels.

13-2: Ordering Parts

Authority

NFPA 1071 Standard for Emergency Vehicle Technician Professional Qualifications (2020)

- Paragraph 6.4.2

Given

1. A part number or specification and application of part required
2. A purchase order form and procedure
3. A vendor list

Requisite Knowledge and Skills

1. *Identify the* function, operation, and construction of component
2. *Identify* applicable standards
3. *Identify* manufacturer specifications
4. *Identify* recommended part substitutions
5. *Identify* parts locations
6. *Identify transportation systems*
7. *Research* written and electronic sources and manuals
8. Communicate verbally and in writing

Job Performance Requirements

Order appropriate parts so that the correct part is ordered from the vendor; purchase orders are tracked; and purchase is recorded.

Section 14: Documentation

14-1: Preparing Estimates

Authority

NFPA 1071 Standard for Emergency Vehicle Technician Professional Qualifications (2020)

- Paragraph 6.5.1

Given

1. An emergency vehicle
2. Repair history
3. Estimate forms
4. Parts lists
5. Required repair or upgrade hours
6. A calculator

Requisite Knowledge and Skills

1. *Identify the* function, construction, and operation of emergency response vehicles
2. *Identify estimated* repair times
3. *Identify* parts and component costs
4. *Identify* applicable vehicle standards
5. Estimate and calculate costs and repair times
6. *Complete documentation and* record-keeping
7. Communicate verbally and in writing

Job Performance Requirements

Prepare an estimate of deficiencies or upgrades to be completed on an emergency vehicle so that the costs are calculated, documented, and communicated.

14-2: Adhering to Repair and Maintenance Schedules

Authority

NFPA 1071 Standard for Emergency Vehicle Technician Professional Qualifications (2020)

- Paragraph 6.5.2

Given

1. An emergency vehicle
2. A schedule
3. Forms
4. A repair or maintenance request
5. Current staffing and workload
6. Work estimate
7. Work space availability

Requisite Knowledge and Skills

1. *Identify* resource availability
2. *Identify* agency requirements
3. *Identify* the function, construction, and operation of emergency response vehicles
4. Utilize resources
5. Evaluate requests
6. Project *maintenance or repair* results

Job Performance Requirements

Adhere to a schedule for maintenance or repair of an emergency vehicle so that required repairs or maintenance can be assigned and completed in accordance with the projected times.

14-3: Documenting Warranty Repairs

Authority

NFPA 1071 Standard for Emergency Vehicle Technician Professional Qualifications (2020)

- Paragraph 6.5.3

Given

1. A repaired vehicle
2. Applicable warranties
3. A deficiency list
4. Technical service bulletins
5. A list of completed tasks

Requisite Knowledge and Skills

1. *Identify* current warranties
2. *Identify* technical service bulletins
3. *Identify* diagnostic checks or performance tests
4. *Identify* required record-keeping and documentation
5. *Identify* diagnostic checks or performance testing procedures
6. *Identify* vehicle safety requirements
7. *Identify the* function, construction, and operation of emergency response vehicles
8. *Identify* manufacturer specifications
9. *Identify agency* policies and procedures
10. Communicate verbally and in writing
11. Comply with *the record-keeping requirements of the manufacturer* and the authority having jurisdiction

Job Performance Requirements

Document warranty repairs so that all repairs are completed, and diagnostically checked and performance tested if required are verified, and tested; and the warranty claim is processed.

14-4: Creating Work Orders

Authority

NFPA 1071 Standard for Emergency Vehicle Technician Professional Qualifications (2020)

- Paragraph 6.5.4

Given

1. An emergency response vehicle
2. An assignment
3. Agency work order forms

Requisite Knowledge and Skills

1. *Identify* required record-keeping
2. *Identify* agency record-keeping system
3. *Identify* previous repair history
4. *Identify the* function, construction, and operation of emergency response vehicles
5. Apply agency record-keeping system
6. Communicate verbally and in writing
7. *Utilize* diagnostic skills

Job Performance Requirements

Create work orders so that all work to be performed is documented; all required information is recorded; all necessary information is communicated to the technician(s); and the emergency response vehicle is prepared for repair or maintenance.

14-5: Validating Maintenance Records

Authority

NFPA 1071 Standard for Emergency Vehicle Technician Professional Qualifications (2020)

- Paragraph 6.5.5

Given

1. Completed documentation of maintenance records
2. Agency record-keeping policies

Requisite Knowledge and Skills

1. *Identify* record-keeping and accounting *procedures*
2. *Describe how to analyze* statistics
3. *Identify* agency policy and procedure
4. Recognize, evaluate, analyze, and calculate statistical information, accounting reports, and cost performance reports

Job Performance Requirements

Validate maintenance records so that accurate records are maintained.

Section 15: Apparatus Specifications

15-1: Developing Apparatus Specifications

Authority

1. NFPA 1071 Standard for Emergency Vehicle Technician Professional Qualifications (2020)
 - Paragraph 6.6.1
2. *Office of the State Fire Marshal*

Given

1. *Agency* recommendations
2. *Agency* policies and procedures
3. Applicable NFPA *and industry* standards

Requisite Knowledge and Skills

1. Identify current quality standards and requirements of the *agency, state and local laws and regulations, the American Society of Mechanical Engineers (ASME), the Society of Automotive Engineers (SAE), the Occupational Safety and Health Administration (OSHA), and NFPA* for the construction of a fire apparatus
2. Recognize *agency* guidelines
3. Organize and identify apparatus components based on the needs of the applicable divisions
4. Communicate verbally and in writing

Job Performance Requirements

Develop a specification through review and research of existing fire apparatus so that technical criteria are presented as a completed specification.

State Fire Training Content

Code Key

Blocks

- G = Given
- RKS = Requisite Knowledge and Skills
- JPR = Job Performance Requirements
- NCTS = New certification training standard

Certification: Emergency Vehicle Technician

CTS	Block	Addition	Justification	Source / Reference
2-1	RKS #2	Added "Describe how to select test, calibration, and diagnostic equipment".	An EVT has to use be able to select and use the appropriate test, calibration, and diagnostic equipment as part of the inspection process.	
2-1	RKS #9	Added "Use test, calibration, and diagnostic equipment".	An EVT has to use be able to select and use the appropriate test, calibration, and diagnostic equipment as part of the inspection process.	
2-1	JPR	Added "brake systems" to the list of chassis system components "...auxiliary drive systems, axles, driveline, steering and suspension system, <i>brake systems</i> , wheels, and tires...".	NFPA 1071 does not address brakes as a separate vehicle system or component. This addition ensures that California EVTs receive adequate brake training.	
2-1	RKS #2	Added "Identify the principles of electricity and operational theory of electronics".	This originally appeared in CTS 2-3 as part of 4.2.3 but cadre requested relocation to CTS 2-1 because it applies to all chassis systems, not just those in emergency vehicles.	
2-3	JPR	Added "brake systems" to the list of chassis system	NFPA 1071 does not address brakes as a separate vehicle	

Emergency Vehicle Technician 3

State Fire Training Content

CTS	Block	Addition	Justification	Source / Reference
		components "...independent suspension systems, all-wheel steering systems, <i>brake systems</i> , secondary braking systems, and interface electronics, and load management systems...".	system or component. This addition ensures that California EVT's receive adequate brake training.	
2-5	JPR	Added "manufacturer and the authority having" to the last segment which now reads "and the repairs are documented in accordance with the procedures of the <i>manufacturer and the authority having jurisdiction</i> ".	NFPA oversight. All repairs are done to manufacturer standards and procedures first.	
2-9	RKS #1	Added "Identify the difference between a road test and a performance test"	Not all performance tests are road tests. Cadre wanted a distinction.	
3-1	RKS #2	Added "Describe how to select test, calibration, and diagnostic equipment".	An EVT has to use be able to select and use the appropriate test, calibration, and diagnostic equipment as part of the inspection process.	
3-1	RKS #10	Added "Use test, calibration, and diagnostic equipment".	An EVT has to use be able to select and use the appropriate test, calibration, and diagnostic equipment as part of the inspection process.	

Emergency Vehicle Technician 3

State Fire Training Content

CTS	Block	Addition	Justification	Source / Reference
3-3	RKS #2	Changed "Recognize metals" to "Identify metals used in cabs"	Cadre didn't feel "metals" was broad enough category of the types of materials encountered in this task.	
3-3	RKS #3	Added "Identify personnel safety restraint systems that may present hazards during cab repair".	Cadre wanted attention placed on air bag safety considerations.	
3-3	RKS #14	Added "Mitigate personnel safety restraint system hazards".	Cadre wanted attention placed on air bag safety considerations.	
3-5	RKS #4	Added "Identify leak classifications and methods to stop them".	Original language didn't include classification.	
3-6	RKS #9	Changed "Recognize metals" to "Identify materials used in cabs and equipment-mounting systems, racks, brackets, and locks"	Cadre didn't feel "metals" was broad enough category of the types of materials encountered in this task.	
3-8	RKS #3	Changed "Recognize metals" to "Identify materials used in cab tilt systems"	Cadre didn't feel "metals" was broad enough category of the types of materials encountered in this task.	
3-11	RKS #8	Changed "Recognize metals" to "Identify materials used in cab bodies, compartments, and storage areas"	Cadre didn't feel "metals" was broad enough category of the types of materials encountered in this task.	
4-1	G #6	Added "Schematics".	Cadre felt the JPR couldn't be performed without them but NFPA did not include.	
4-1	G #5	Added "digital" to "including a belt tension gauge and a multimeter".	Cadre requested clarification to ensure correct equipment.	
4-1	RKS #3	Added "Kirchhoff's law" to "Ohm's law".	Almost everything in vehicles now runs on electronic systems.	
4-1	RKS #4	Added "Describe how to read and interpret schematics".	NFPA omission. This is a necessary skill to complete the JPR.	

Emergency Vehicle Technician 3

State Fire Training Content

CTS	Block	Addition	Justification	Source / Reference
4-1	RKS #10	Added "Read and interpret schematics".	NFPA omission. This is a necessary skill to complete the JPR.	
5-3	RKS #16	Replaced "fire flow calculations" with "hydraulic flow calculations"	Fire flow is not accurate.	
5-4	G #1	Added "or agent" to types of tanks listed.	Curriculum should cover tanks with contents other than water and foam.	
5-4	RKS #1	Added "and mounting" to "function, operation, construction of water/foam tanks".	This is a critical element of this part of the vehicle. The JPR lists it, but the RKS doesn't address it.	
5-4	RKS #1, #5	Combined "agent" with "water/foam" to address all three types of tanks.	NFPA writing read as if water/foam modified agent and it doesn't. Agent is also a noun: water/foam/agent.	
5-4	RKS #2	Added "Describe specialized pressure systems".	This is a very unique system that is becoming more popular but is not yet included in the NFPA standard.	
5-5	G #1	Expanded "water or foam" tank to "water, foam, or agent" tank	California has three tank types and students need to be able to repair all three types.	
5-5	G #5	Added: "Test, calibration, and diagnostic equipment"	NFPA oversight. Selecting and using the equipment was listed in the RKS.	
5-5	RKS #1, #5	Expanded "water" tanks to include "water/foam/agent" tanks.	California has three tank types and students need to be able to repair all three types.	
5-5	JPR	Expanded "water/foam" tanks to include "water/foam/agent" tanks.	California has three tank types and students need to be able to repair all three types.	
5-6	RKS #7, #12	Replaced "fire flow calculations" with "hydraulic flow calculations".	Fire flow is not accurate.	
6-3	JPR	Added "and NFPA performance standards" to "the aerial device is tested for proper operation".	Just because it's operational does not mean it meets minimal requirements. Cadre requested more specificity.	

Emergency Vehicle Technician 3

State Fire Training Content

CTS	Block	Addition	Justification	Source / Reference
6-3	RKS #1	Added "and performance" to "Describe the function, construction, and operation of an aerial device".	Just because it's operational does not mean it meets minimal requirements. Cadre requested more specificity.	
6-3	RKS #9	Added "and performance" to "Perform operational tests".	Just because it performs does not mean it meets minimal requirements. Cadre requested more specificity.	
6-3	G #3	Added "NFPA 1911 (current edition)".	Corresponds to addition in JPR.	
6-4	RKS #6	Added "Describe how to read and interpret schematics".	This is a critical skill not covered by NFPA.	
6-4	RKS #13	Added "Read and interpret schematics".	This is a critical skill not covered by NFPA.	
6-4	G #8	Added "Schematics".	Corresponds to addition in RKS.	
7-2	RKS #2	Added "Describe how to use test, calibration, and diagnostic equipment".	NFPA listed the skill component, but not the knowledge component. Added for consistency and because it's necessary.	
7-3	G #1	Replaced "emergency response vehicle" with "apparatus".	California has foam-proportioning systems on units other than vehicles (portable trailers, etc.).	
7-4	RKS #7	Added "Identify state and local foam flow requirements and restrictions".	Each jurisdiction has requirements. The individual performing testing is responsible for knowing and abiding by them.	
7-4	RKS #10	Added "in accordance with state and local requirements and restrictions".	Each jurisdiction has requirements. The individual performing testing is responsible for knowing and abiding by them.	
7-7	G #1	Replaced "emergency response vehicle" with "apparatus".	California has compressed air foam systems (CAFS) on units other than vehicles (portable trailers, etc.).	
7-7	RKS #4	Added "Identify state and local foam flow requirements and restrictions".	Each jurisdiction has requirements. The individual performing testing is responsible for knowing and abiding by them.	

Emergency Vehicle Technician 3

State Fire Training Content

CTS	Block	Addition	Justification	Source / Reference
7-7	RKS #12	Added "in accordance with state and local requirements and restrictions".	Each jurisdiction has requirements. The individual performing testing is responsible for knowing and abiding by them.	
7-8	G #1	Replaced "emergency response vehicle" with "apparatus".	California has compressed air foam systems (CAFS) on units other than vehicles (portable trailers, etc.).	
7-8	RKS #8	Added "Identify state and local foam flow requirements and restrictions".	Each jurisdiction has requirements. The individual performing testing is responsible for knowing and abiding by them.	
7-8	RKS #11	Added "in accordance with state and local requirements and restrictions".	Each jurisdiction has requirements. The individual performing testing is responsible for knowing and abiding by them.	
7-13	G #1	Replaced "emergency response vehicle" with "apparatus".	California has breathing-air and air purification systems on units other than vehicles (portable trailers, etc.).	
7-14	G #1	Replaced "emergency response vehicle" with "apparatus".	California has breathing-air compressor systems on units other than vehicles (portable trailers, etc.).	
7-14	G #4	Added "Test, calibration, and diagnostic equipment".	Required to perform JPR but NFPA didn't include it.	
7-14	G #5	Added "Tools".	Required to perform JPR but NFPA didn't include it.	
7-17	G #1	Replaced "emergency response vehicle" with "apparatus".	California has auxiliary air systems on units other than vehicles (portable trailers, etc.).	
8-2	RKS #18	Removed "and SOPS" and added "and the authority having jurisdiction" to "Complete required documentation in accordance with NFPA standards"	The AHJ outranks the department's standard operating procedures.	
8-3	NCTS	Added standard for "Inspecting Electronic	NFPA has a standard for repairing, but not for inspecting,	

Emergency Vehicle Technician 3

State Fire Training Content

CTS	Block	Addition	Justification	Source / Reference
		Controls and Instrumentation”	maintaining, or testing. Cadre added to cover critical content.	
8-4	NCTS	Added standard for “Maintaining Electronic Controls and Instrumentation”	NFPA has a standard for repairing, but not for inspecting, maintaining, or testing. Cadre added to cover critical content.	
8-6	NCTS	Added standard for “Testing Electronic Controls and Instrumentation”	NFPA has a standard for repairing, but not for inspecting, maintaining, or testing. Cadre added to cover critical content.	
9-8	G #1	Add “An emergency response vehicle with an aerial device, systems, and related components”.	NFPA oversight. Necessary to complete job performance requirement.	
9-8	RKS #5	Replaced “fire flow calculations” with “hydraulic flow calculations”.	Fire flow is not accurate.	
10-1	G #1	Replaced “emergency response vehicle” with “apparatus”.	California has electrical line voltage systems on units other than vehicles (portable trailers, etc.).	
10-1	RKS #3	Added “Describe the principles of electricity”.	This task cannot be performed without this knowledge.	
10-2	G #1	Replaced “emergency response vehicle” with “apparatus”.	California has electrical line voltage systems on units other than vehicles (portable trailers, etc.).	
10-3	G #1	Replaced “emergency response vehicle” with “apparatus”. Removed “hardwired”.	California has electrical line voltage systems on units other than vehicles (portable trailers, etc.). Not all appliances are hardwired anymore.	
10-3	JPR	Removed “hardwired” from both references to “line voltage appliances [and/or] controls”.	Not all appliances are hardwired anymore.	
11-1	G #2	Replaced “emergency vehicle” with “apparatus”.	California has equipment on units other than vehicles (portable trailers, etc.).	

Emergency Vehicle Technician 3

State Fire Training Content

CTS	Block	Addition	Justification	Source / Reference
11-2	G #1	Added "An apparatus".	Cadre feels a vehicle or equipment unit it needed for this JPR.	
11-3	RKS #2	Changed "Failure analysis" to "Describe how to evaluate and analyze technician strengths and weaknesses".	The NFPA language is vague as to who/what is failing and is very negative. Revision mirrors JPR language.	
11-3	RKS #4	Changed "Human behavior" to "Demonstrate an understanding of appropriate behavior in a work environment".	The NFPA language is vague as to its intent. Cadre requested a more specific skill set.	
11-3	RKS #8	Added "and document".	There isn't much value in an evaluation if there isn't documentation of the evaluation.	
11-5	RKS #8	Added "Promote a safe working environment".	There were no RKS items that directly referenced this skill.	
11-6	RKS #3	Added "Identify location and content of material safety data sheets" to "MSDS".	There wasn't enough information about what to do with the MSDS.	
12-1	G #1	Replaced "A vehicle" with "An apparatus".	California has equipment on units other than vehicles (portable trailers, etc.).	
15-1	RKS #1	Add "state and local laws and regulations" to a broader segment.	This is a blanket statement to cover anything that applies in California, but not elsewhere.	

Errata

Code Key

Blocks

- G = Given
- RKS = Requisite Knowledge and Skills
- JPR = Job Performance Requirements
- NCTS = New certification training standard

Changes

- New text show in underline
- Deleted text shown in ~~strikeout~~