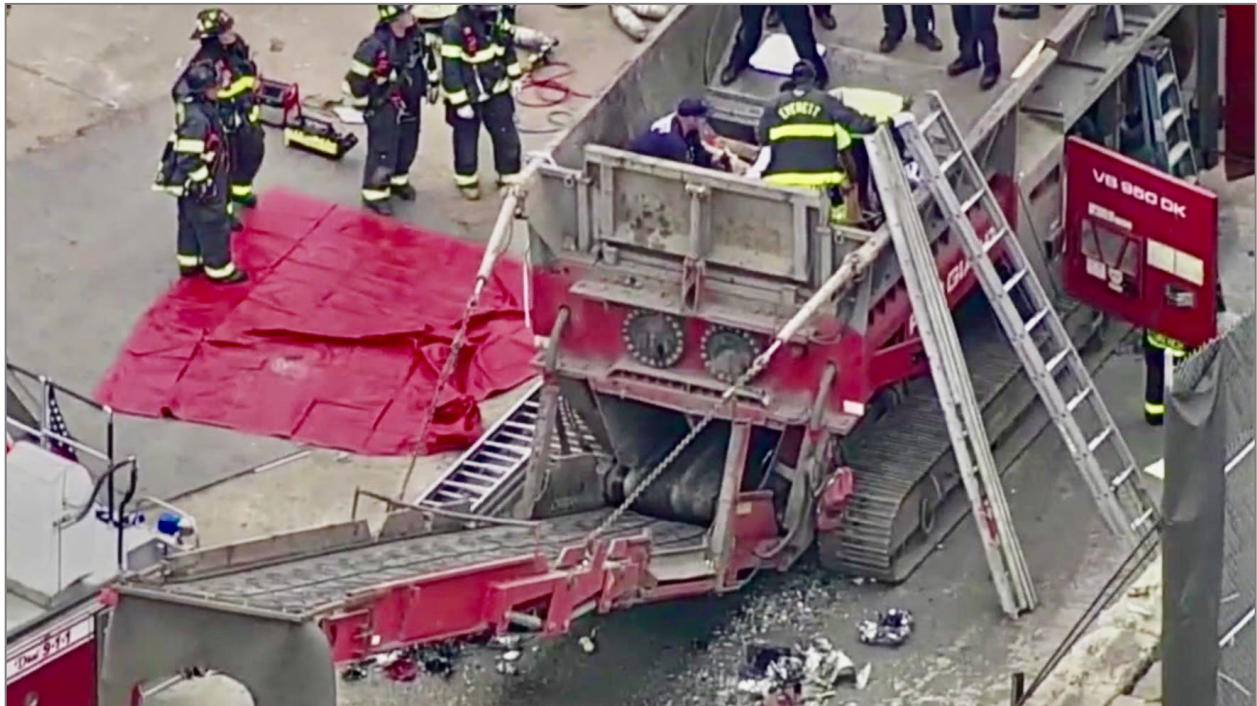


Machinery Rescue

(NFPA 1006: Machinery Rescue
Awareness/Operations/Technician)

Curriculum Training Standards Guide (2021)



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

Machinery Rescue

Curriculum Training Standards Guide (2021)

Publication Date: May 2023

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

- 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).

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How to Read a CTS Guide

Overview

A curriculum 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 curriculum's NFPA standard and identifies where each curriculum training standard is taught (course plan), tested (skill sheets), and validated (task book).

Individuals aspiring to meet State Fire Training's curriculum 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 curriculum 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).

Machinery Rescue

Section 1: Awareness

1-1: Sizing Up a Machinery Rescue Incident

Authority

1. NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)
 - Paragraph 13.1.1

Job Performance Requirement

Size up a machinery 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 parameters are identified, and information required to develop an initial incident action plan is obtained.

Requisite Knowledge

1. *Describe* types of reference materials and their uses (T3-2)
2. *Describe* availability and capability of the resources (T3-2)
3. *Describe* elements of an incident action plan and related information (T3-2)
4. *Describe* relationship of the size-up to the incident management system (T3-2)
5. *Describe* information gathering techniques and how that information is used in the size-up process (T3-2)
6. *Describe* basic search criteria for machinery rescue incidents

Requisite Skills

1. Read technical 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
Machinery Rescue Technician (2021) <ul style="list-style-type: none">• Topic 3-2	Machinery Rescue Technician (2021) <ul style="list-style-type: none">• Skill 8	Machinery Rescue Technician (2021) Instructor Task Book <ul style="list-style-type: none">• JPR 3

1-2: Recognizing and Isolating Incident Hazards

Authority

1. NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)
 - Paragraph 13.1.2

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

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
Machinery Rescue Technician (2021) <ul style="list-style-type: none">• Topic 3-2 (RK7)• Topic 3-6 (all others)	Machinery Rescue Technician (2021) <ul style="list-style-type: none">• Skill 12	Machinery Rescue Technician (2021) Instructor Task Book <ul style="list-style-type: none">• JPR 3

1-3: Recognizing the Need for Technical Rescue Resources

Authority

1. NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)
 - Paragraph 13.1.3

Job Performance Requirement

Recognize the need for technical rescue resources at an operations- or technician-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 form
3. *Identify* types of incidents common to the AHJ
4. *Identify* hazards
5. *Describe* incident support operations and resource
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 the required safety measures

Content Modification

Block	Modification	Justification

Cross Reference

Course Plan	Training Record	Task Book
Machinery Rescue Technician (2021) <ul style="list-style-type: none">• Topic 2-1 (RK3, RS3)• Topic 3-4 (RK1, RK2, RK5, RS1, RS2, RS4, RS5)• Topic 3-6 (RK4)• Topic 3-7 (RK5)	Machinery Rescue Technician (2021) <ul style="list-style-type: none">• Skill 10	Machinery Rescue Technician (2021) Instructor Task Book <ul style="list-style-type: none">• JPR 3

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

Authority

1. NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)
 - Paragraph 13.1.4

Job Performance Requirement

Support an operations- or technician-level incident, given an incident, an assignment, an incident action plan, and resources from the tool *cache*, 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 the task progress status to a supervisor or incident command

Content Modification

Block	Modification	Justification
JPR	Changed “kit” to “cache”.	Agencies don’t have designated machinery rescue “tool kits”. They draw from their overall tool cache.

Cross Reference

Course Plan	Training Record	Task Book
Machinery Rescue Technician (2021) <ul style="list-style-type: none">• Topic 2-2 (RK4)• Topic 3-5 (RK1, RK3, RK5, RK6, RS1, RS2, RS3, RS4)• Topic 3-6 (RK2)	Machinery Rescue Technician (2021) <ul style="list-style-type: none">• Skill 11	Machinery Rescue Technician (2021) Instructor Task Book <ul style="list-style-type: none">• JPR 3

Section 2: Operations

2-1: Planning for a Small Machinery Incident

Authority

1. NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)
 - Paragraph 13.2.1

Job Performance Requirement

Preplan for a small machinery incident, given agency guidelines, planning forms, and operations-level machinery incident or simulations, so that a standard approach is used during training and operational scenarios; initiation and ongoing size-ups are being completed; emergency situation hazards are identified; isolation methods and scene security measures are identified; machinery 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 machinery common to the AHJ boundaries
4. *Identify* machinery hazards
5. *Describe* incident support operations and resources
6. *Describe* machinery anatomy
7. *Describe* fire suppression and safety measures

Requisite Skills

1. Apply operational protocols
2. Select specific planning forms based on the types of machinery
3. Identify and evaluate various types of machinery within the AHJ boundaries
4. Request support and resources
5. Identify machinery anatomy
6. Determine the required fire suppression and safety measures

Content Modification

Block	Modification	Justification

Cross Reference

Course Plan	Training Record	Task Book
Machinery Rescue Technician (2021) <ul style="list-style-type: none">• Topic 2-1 (RK3, RK6, RS3, RS5)• Topic 3-1 (RK1, RK2, RK5, RS1, RS2)• Topic 3-4 (RS4)• Topic 3-6 (RK4)• Topic 3-9 (RK7, RS9)	N/A	Machinery Rescue Technician (2021) Instructor Task Book <ul style="list-style-type: none">• JPR 3

2-2: Establishing Scene Safety Zones

Authority

1. NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)
 - Paragraph 13.2.2

Job Performance Requirement

Establish “scene” safety zones, given scene security barriers, incident location, incident information, and PPE, so that hot, warm, and cold safety zones are designated, zone perimeters are consistent with incident requirements; perimeter markings can be recognized and understood by others; zone boundaries are communicated to incident command; and only authorized personnel are allowed access to the rescue scene.

Requisite Knowledge

1. *Describe* use and selection of PPE
2. *Describe* traffic control flow and concepts
3. *Identify* types of control devices and tools
4. *Identify* types of existing and potential hazards
5. *Describe* methods of hazard mitigations
6. *Describe* organizational standard operating procedures
7. *Describe* types of zones and staffing requirements

Requisite Skills

1. Select and use PPE
2. Apply hazard control concepts
3. Identify and mitigate existing or potential hazards
4. Apply zone identification and personal safety techniques

Content Modification

Block	Modification	Justification

Cross Reference

Course Plan	Training Record	Task Book
Machinery Rescue Technician (2021) <ul style="list-style-type: none">• Topic 2-2 (RK1, RS1)• Topic 3-7 (RK2, RK3, RK4, RK5, RK6, RK7, RS2, RS3, RS4)	Machinery Rescue Technician (2021) <ul style="list-style-type: none">• Skill 13	Machinery Rescue Technician (2021) Instructor Task Book <ul style="list-style-type: none">• JPR 3

2-3: Establishing Fire Protection

Authority

1. NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)
 - Paragraph 13.2.3

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* IMS
3. *Identify* types of extinguishing devices
4. *Describe* agency policies and procedures
5. *Identify* types of flammable and combustible substances
6. *Identify* types of ignition sources
7. *Describe* extinguishment or control options

Requisite Skills

1. Identify fire and explosion hazards
2. Operate within the IMS
3. Use extinguishing devices
4. Apply fire control strategies
5. Manage initiation potential

Content Modification

Block	Modification	Justification

Cross Reference

Course Plan	Training Record	Task Book
Machinery Rescue Technician (2021) <ul style="list-style-type: none">• Topic 3-9	Machinery Rescue Technician (2021) <ul style="list-style-type: none">• Skill 15	Machinery Rescue Technician (2021) Instructor Task Book <ul style="list-style-type: none">• JPR 3

2-4: Stabilizing a Small or Simple Machine

Authority

1. NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)
 - Paragraph 13.2.4

Job Performance Requirement

Stabilize a small or simple machine, given a machinery tool *cache* and PPE, so that the machinery is prevented from moving during the rescue operations; entry, exit, and tools placement points are not compromised; anticipated rescue activities will not compromise machinery 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 small machinery movement
3. *Identify* types of stabilization points
4. *Identify* types of stabilization surfaces
5. *Describe* AHJ policies and procedures
6. *Describe* types of machinery construction components as they apply to stabilization

Requisite Skills

1. Select, operate, and monitor stabilization devices

Content Modification

Block	Modification	Justification
JPR	Changed “kit” to “cache”.	Agencies don’t have designated machinery rescue “tool kits”. They draw from their overall tool cache.

Cross Reference

Course Plan	Training Record	Task Book
Machinery Rescue Technician (2021) <ul style="list-style-type: none">• Topic 4-1	Machinery Rescue Technician (2021) <ul style="list-style-type: none">• Skill 16	Machinery Rescue Technician (2021) Instructor Task Book <ul style="list-style-type: none">• JPR 4

2-5: Isolating Energy Sources

Authority

1. NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)
 - Paragraph 13.2.5

Job Performance Requirement

Isolate potentially harmful energy sources, given machinery tool *cache* 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
JPR	Changed “kit” to “cache”.	Agencies don’t have designated machinery rescue “tool kits”. They draw from their overall tool cache.

Cross Reference

Course Plan	Training Record	Task Book
Machinery Rescue Technician (2021) <ul style="list-style-type: none">• Topic 2-2 (RK1, RS1)• Topic 3-8 (RK2, RK3, RK4, RK5, RK6, RS2, RS3, RS4)	Machinery Rescue Technician (2021) <ul style="list-style-type: none">• Skill 14	Machinery Rescue Technician (2021) Instructor Task Book <ul style="list-style-type: none">• JPR 3

2-6: Determining Small Machinery Access and Egress Points

Authority

1. NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)
 - Paragraph 13.2.6

Job Performance Requirement

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

Requisite Knowledge

1. *Describe* small machinery construction/features (4-3)
2. *Describe* access and egress points, routes, and hazards (4-3)
3. *Describe* operating systems (4-3)
4. *Describe* AHJ standard operating procedures (4-3)
5. *Describe* emergency evacuation and safety signals (4-3)

Requisite Skills

1. Identify access and egress points and probable victim locations (4-3)
2. Assess and evaluate impact of machine stability on the victim (4-3)

Content Modification

Block	Modification	Justification

Cross Reference

Course Plan	Training Record	Task Book
Machinery Rescue Technician (2021) <ul style="list-style-type: none">• Topic 4-3	Machinery Rescue Technician (2021) <ul style="list-style-type: none">• Skill 18	Machinery Rescue Technician (2021) Instructor Task Book <ul style="list-style-type: none">• JPR 4

2-7: Creating Access and Egress Openings for Rescue from a Small or Simple Machine

Authority

1. NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)
 - Paragraph 13.2.7

Job Performance Requirement

Create access and egress openings for rescue from a small or simple machine, given a machinery tool *cache*, specialized tools and equipment, PPE, and an assignment, so that the movement of rescuers and equipment compliments victim care and removal; the technique chosen is expedient; victim and rescuer protection is afforded; and stability is maintained.

Requisite Knowledge

1. *Describe* small machinery construction and features
2. *Identify* electrical, mechanical, hydraulic, pneumatic, and alternative access and egress equipment
3. *Describe* 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 common small machinery 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
JPR	Changed “kit” to “cache”.	Agencies don’t have designated machinery rescue “tool kits”. They draw from their overall tool cache.

Cross Reference

Course Plan	Training Record	Task Book
Machinery Rescue Technician (2021) <ul style="list-style-type: none">• Topic 2-1 (RK1, RS1)• Topic 4-3 (RK3)• Topic 4-4 (RK2, RK4, RK5, RK6, RS2, RS3, RS5, RS6)• Topic 5-1 (RS4)	Machinery Rescue Technician (2021) <ul style="list-style-type: none">• Skill 19, 20, 21, 22, 23, 24	Machinery Rescue Technician (2021) Instructor Task Book <ul style="list-style-type: none">• JPR 4

2-8: Disentangling Victims

Authority

1. NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)
 - Paragraph 13.2.8

Job Performance Requirement

Disentangle victims(s), given an extrication involving a small or simple machine, a machinery tool *cache*, 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
JPR	Changed “kit” to “cache”.	Agencies don’t have designated machinery rescue “tool kits”. They draw from their overall tool cache.

Cross Reference

Course Plan	Training Record	Task Book
Machinery Rescue Technician (2021) <ul style="list-style-type: none">• Topic 5-1	Machinery Rescue Technician (2021) <ul style="list-style-type: none">• Skill 25, 26, 27, 28, 29, 30	Machinery Rescue Technician (2021) Instructor Task Book <ul style="list-style-type: none">• JPR 5

2-9: Identifying Potential Emergency Incidents Involving Mechanical Equipment

Authority

1. NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)
 - Paragraph 13.2.9

Job Performance Requirement

Identify potential emergency incidents involving mechanical equipment, given the associated structural and damage characteristics, so that incident-specific resources are identified and hazard control plans are developed.

Requisite Knowledge

1. *Describe* types of stabilization devices
2. *Describe* mechanism of machinery movement and travel
3. *Identify* types of stabilization points
4. *Identify* types of energy sources
5. *Describe* system isolation and release methods
6. *Identify* access and egress points
7. *Describe* specialized system features
8. *Describe* tool selection and application
9. *Describe* special features of unique machinery systems and accompanying subject matter experts

Requisite Skills

1. Identify access and egress points and probable victim locations
2. Identify common energy control devices and construction
3. Perform hazard control based on techniques selected
4. Apply tactics and strategy based on assignment
5. Select and operate tools and equipment specific to machinery rescue
6. Apply victim care and stabilization devices
7. Demonstrate safety procedures

Content Modification

Block	Modification	Justification

Cross Reference

Course Plan	Training Record	Task Book
Machinery Rescue Technician (2021) <ul style="list-style-type: none">• Topic 2-3 (RK8, RS5)• Topic 3-8 (RK7)• Topic 4-2 (RK1, RK2, RK3, RK4, RK5, RK9, RS2, RS3)• Topic 4-3 (RK6, RS1)• Topic 5-2 (RS6)	N/A	Machinery Rescue Technician (2021) Instructor Task Book <ul style="list-style-type: none">• JPR 3

2-10: Designating Access and Egress Points for Victims(s) and Rescuer(s)

Authority

1. NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)
 - Paragraph 13.2.10

Job Performance Requirement

Designate access and egress points for victim(s) and rescuer(s), given a machinery rescue tool *cache* and hazard-specific PPE, so that all machinery involved is stabilized and isolated and chosen points can be protected.

Requisite Knowledge

1. *Identify* types of stabilization devices
2. *Describe* mechanism of machinery movement and travel
3. *Identify* types of stabilization points
4. *Identify* types of energy sources
5. *Describe* system isolation and release methods
6. *Identify* access and egress points
7. *Describe* specialized system features
8. *Describe* tool selection and application
9. *Describe* special features of unique machinery systems

Requisite Skills

1. Identify access and egress points and probable victim locations
2. Identify common energy control devices and construction
3. Perform hazard control based on techniques selected
4. Apply tactics and strategy based on assignment
5. Select and operate tools and equipment specific to machinery rescue
6. Apply victim care and stabilization devices
7. Demonstrate safety procedures

Content Modification

Block	Modification	Justification
JPR	Changed “kit” to “cache”.	Agencies don’t have designated machinery rescue “tool kits”. They draw from their overall tool cache.

Cross Reference

Course Plan	Training Record	Task Book
Machinery Rescue Technician (2021) <ul style="list-style-type: none">• Topic 2-3 (RK8, RS5)• Topic 3-8 (RS2, RK4, RK7)• Topic 4-1 (RK1, RK3)• Topic 4-2 (RK5, RK9)• Topic 4-3 (RK2, RK6, RS1)• Topic 4-4 (RS3)• Topic 5-2 (RS6)	Machinery Rescue Technician (2021) <ul style="list-style-type: none">• Skill 18	Machinery Rescue Technician (2021) Instructor Task Book <ul style="list-style-type: none">• JPR 4

2-11: Controlling Fluid or Mechanical Release Hazards

Authority

1. NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)
 - Paragraph 13.2.11

Job Performance Requirement

Control the hazards presented by the release of fluids or mechanical release devices, given an entrapment within machinery, so that mechanical processes are secured, the position of machinery is determined to optimize the removal of victim(s), and chosen points do not compromise the removal of victim or rescuer.

Requisite Knowledge

1. *Identify* types of stabilization devices
2. *Describe* mechanism of machinery movement and travel
3. *Identify* types of stabilization points
4. *Identify* types of energy sources
5. *Describe* system isolation and release methods
6. *Identify* access and egress points
7. *Describe* specialized system features
8. *Describe* tool selection and application
9. *Describe* special features of unique machinery systems

Requisite Skills

1. Identify access and egress points and probable victim locations
2. Identify common energy control devices and construction
3. Perform hazard control based on techniques selected
4. Apply tactics and strategy based on assignment
5. Select and operate tools and equipment specific to machinery rescue
6. Apply victim care and stabilization device
7. Demonstrate safety procedures

Content Modification

Block	Modification	Justification

Cross Reference

Course Plan	Training Record	Task Book
Machinery Rescue Technician (2021) <ul style="list-style-type: none">• Topic 3-8 (RK4)• Topic 4-2 (RK1, RK2, RK3, RK5, RK7, RK8, RK9, RS2, RS3, RS4, RS5, RS7)• Topic 4-3 (RK6, RS1)• Topic 5-2 (RS6)	Machinery Rescue Technician (2021) <ul style="list-style-type: none">• Skill 17	Machinery Rescue Technician (2021) Instructor Task Book <ul style="list-style-type: none">• JPR 4

2-12: Initiating Energy Equipment Stabilization

Authority

1. NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)
 - Paragraph 13.2.12

Job Performance Requirement

Initiate stabilization of energy equipment, given an entrapment within machinery, so that undue injury is prevented and safety guideline points are followed.

Requisite Knowledge

1. *Identify* types of stabilization devices
2. *Describe* mechanism of machinery movement and travel
3. *Identify* types of stabilization points
4. *Identify* types of energy sources
5. *Describe* system isolation and release methods
6. *Identify* access and egress points
7. *Describe* specialized system features
8. *Describe* tool selection and application
9. *Describe* special features of unique machinery systems

Requisite Skills

1. Identify access and egress points and probable victim locations
2. Identify common energy control devices and construction
3. Perform hazard control based on techniques selected
4. Apply tactics and strategy based on assignment
5. Select and operate tools and equipment specific to machinery rescue

Content Modification

Block	Modification	Justification

Cross Reference

Course Plan	Training Record	Task Book
Machinery Rescue Technician (2021) <ul style="list-style-type: none">• Topic 3-8 (RK4)• Topic 4-2 (RK1, RK2, RK3, RK5, RK7, RK8, RK9, RS2, RS3, RS4, RS5)• Topic 4-3 (RK6, RS1)	Machinery Rescue Technician (2021) <ul style="list-style-type: none">• Skill 17	Machinery Rescue Technician (2021) Instructor Task Book <ul style="list-style-type: none">• JPR 4

2-13: Utilizing Information from a Subject Matter Expert

Authority

1. NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)
 - Paragraph 13.2.13

Job Performance Requirement

Utilize specific information from a subject matter expert (SME), given a machinery rescue event and an SME capable of supplying event- or system-specific technical guidance, so that the technical guidance supports decision making and operational considerations applied during the event.

Requisite Knowledge

1. *Describe* operational protocols
2. *Describe* data collection *methods*
3. *Describe* data interpretation

Requisite Skills

1. Conduct interviews
2. Take notes
3. Interpret diagrams/technical drawings

Content Modification

Block	Modification	Justification
RK2	Added "methods".	Added to narrow scope.

Cross Reference

Course Plan	Training Record	Task Book
Machinery Rescue Technician (2021) <ul style="list-style-type: none">• Topic 3-3	Machinery Rescue Technician (2021) <ul style="list-style-type: none">• Skill 9	Machinery Rescue Technician (2021) Instructor Task Book <ul style="list-style-type: none">• JPR 3

2-14: Removing a Packaged Victim

Authority

1. NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)
 - Paragraph 13.2.14

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* operation of IMS (3-9)
3. *Describe* types of immobilization, packaging, and transfer devices
4. *Describe* types of immobilization techniques
5. *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
Machinery Rescue Technician (2021) <ul style="list-style-type: none">• Topic 3-9 (RK2)• Topic 5-2 (RK1, RK3, RK4, RK5, RS1, RS2, RS3, RS4)	Machinery Rescue Technician (2021) <ul style="list-style-type: none">• Skill 31	Machinery Rescue Technician (2021) Instructor Task Book <ul style="list-style-type: none">• JPR 5

2-15: Terminating an Incident

Authority

1. NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)
 - Paragraph 13.2.15

Job Performance Requirement

Terminate an incident, given PPE specific to the incident, isolation barriers, and tool *cache*, so that rescuers and bystanders are protected and accounted for during termination operations, the party responsible is notified of any modification or damage created during the operational period, documentation of loss or material use is accounted for, scene documentation is performed, scene control is transferred to a responsible party, potential or existing hazards are communicated to that responsible party, debriefing and post-incident analysis and critique are considered, and command is terminated.

Requisite Knowledge

1. *Describe* PPE characteristics
2. *Identify* hazard and risk identification
3. *Describe* isolation techniques
4. *Identify* statutory requirements
5. *Identify* responsible parties
6. *Describe* accountability system use
7. *Describe* reporting methods
8. *Describe* post-incident analysis techniques

Requisite Skills

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

Content Modification

Block	Modification	Justification
JPR	Changed “kit” to “cache”.	Agencies don’t have designated machinery rescue “tool kits”. They draw from their overall tool cache.
RS4	Added “implement”.	NFPA did not provide a verb.
RS5	Added “conduct”.	NFPA did not provide a verb.

Cross Reference

Course Plan	Training Record	Task Book
Machinery Rescue Technician (2021) <ul style="list-style-type: none">• Topic 6-1	Machinery Rescue Technician (2021) <ul style="list-style-type: none">• Skill 32	Machinery Rescue Technician (2021) Instructor Task Book <ul style="list-style-type: none">• JPR 6

Section 3: Technician

3-1: Planning for a Large Machinery Incident

Authority

1. NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)
 - Paragraph 13.3.1

Job Performance Requirement

Plan for a large machinery incident, and conduct initial and ongoing size-up, given agency guidelines, planning forms, and an operations-level machinery 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 measure are considered; fire suppression and safety measures are identified; machinery 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 large, commercial/heavy machinery common to the AHJ boundaries
4. *Describe* machinery hazards
5. *Describe* incident support operations and resources
6. *Identify* machinery anatomy
7. *Describe* fire suppression and safety measures

Requisite Skills

1. Apply operational protocols
2. Select specific planning forms based on the types of large machinery
3. Identify and evaluate various types of large machinery within the AHJ boundaries
4. Request support and resources
5. Identify large machinery anatomy
6. Determine the required fire suppression and safety measures

Content Modification

Block	Modification	Justification

Cross Reference

Course Plan	Training Record	Task Book
Machinery Rescue Technician (2021) <ul style="list-style-type: none">• Topic 2-1 (RK3, RK6, RS3, RS5)• Topic 3-1 (RK1, RK2, RK5, RS1, RS2)• Topic 3-4 (RS4)• Topic 3-6 (RK4)• Topic 3-9 (RK7, RS9)	N/A	Machinery Rescue Technician (2021) Instructor Task Book <ul style="list-style-type: none">• JPR 3

3-2: Stabilizing Large Machinery

Authority

1. NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)
 - Paragraph 13.3.2

Job Performance Requirement

Stabilize large machinery, given a machinery tool *cache* and PPE, so that the machinery is prevented from moving during the rescue operations; entry, exit, and tool placement points are not compromised; anticipated rescue activities will not compromise machinery 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 machinery movement
3. *Identify* types of stabilization points
4. *Identify* types of stabilization surfaces
5. *Describe* AHJ policies and procedures
6. *Identify* types of machinery construction components as they apply to stabilization

Requisite Skills

1. Select, operate, and monitor stabilization devices

Content Modification

Block	Modification	Justification
JPR	Changed “kit” to “cache”.	Agencies don’t have designated machinery rescue “tool kits”. They draw from their overall tool cache.

Cross Reference

Course Plan	Training Record	Task Book
Machinery Rescue Technician (2021) <ul style="list-style-type: none">• Topic 4-1	Machinery Rescue Technician (2021) <ul style="list-style-type: none">• Skill 16	Machinery Rescue Technician (2021) Instructor Task Book <ul style="list-style-type: none">• JPR 4

3-3: Determining Large Machinery Access and Egress Points

Authority

1. NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)
 - Paragraph 13.3.3

Job Performance Requirement

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

Requisite Knowledge

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

Requisite Skills

1. Identify access and egress points
2. Identify possible victim locations
3. Assess and evaluate impact of large machinery stability on victim(s)

Content Modification

Block	Modification	Justification

Cross Reference

Course Plan	Training Record	Task Book
Machinery Rescue Technician (2021) <ul style="list-style-type: none">• Topic 4-3	Machinery Rescue Technician (2021) <ul style="list-style-type: none">• Skill 18	Machinery Rescue Technician (2021) Instructor Task Book <ul style="list-style-type: none">• JPR 4

3-4: Creating Access and Egress Openings for Rescue from Large Machinery

Authority

1. NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)
 - Paragraph 13.3.4

Job Performance Requirement

Create access and egress openings for rescue from large machinery, given a machinery tool *cache*, 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 stability is maintained.

Requisite Knowledge

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

Requisite Skills

1. Identify large machinery 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 evaluation signals

Content Modification

Block	Modification	Justification
JPR	Changed “kit” to “cache”.	Agencies don’t have designated machinery rescue “tool kits”. They draw from their overall tool cache.

Cross Reference

Course Plan	Training Record	Task Book
Machinery Rescue Technician (2021) <ul style="list-style-type: none">• Topic 2-1 (RK1, RS1)• Topic 4-3 (RK3)• Topic 4-4 (RK2, RK4, RK5, RK6, RS2, RS3, RS5, RS6)• Topic 5-1 (RS4)	Machinery Rescue Technician (2021) <ul style="list-style-type: none">• Skill 19, 20, 21, 22, 23, 24	Machinery Rescue Technician (2021) Instructor Task Book <ul style="list-style-type: none">• JPR 4

3-5: Disentangling Victims

Authority

1. NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications (2021)
 - Paragraph 13.3.5

Job Performance Requirement

Disentangle victim(s), given an extrication incident, a machinery tool *cache*, 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* operation of 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
JPR	Changed “kit” to “cache”.	Agencies don’t have designated machinery rescue “tool kits”. They draw from their overall tool cache.

Cross Reference

Course Plan	Training Record	Task Book
Machinery Rescue Technician (2021) <ul style="list-style-type: none">• Topic 5-1	Machinery Rescue Technician (2021) <ul style="list-style-type: none">• Skill 25, 26, 27, 28, 29, 30	Machinery Rescue Technician (2021) Instructor Task Book <ul style="list-style-type: none">• JPR 5