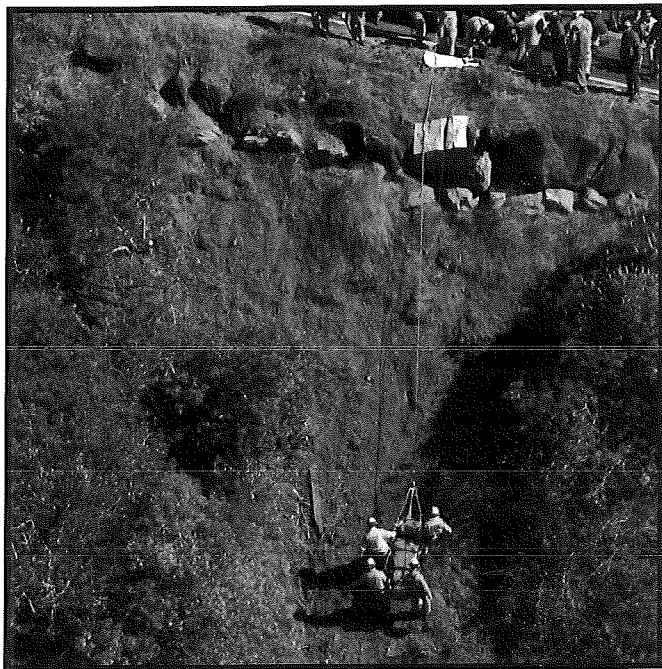


LOW ANGLE ROPE RESCUE OPERATIONAL

Approved and Adopted by the
Office of State Fire Marshal



Recommended by the Statewide Training
and Education Advisory Committee
and the State Board of Fire Services



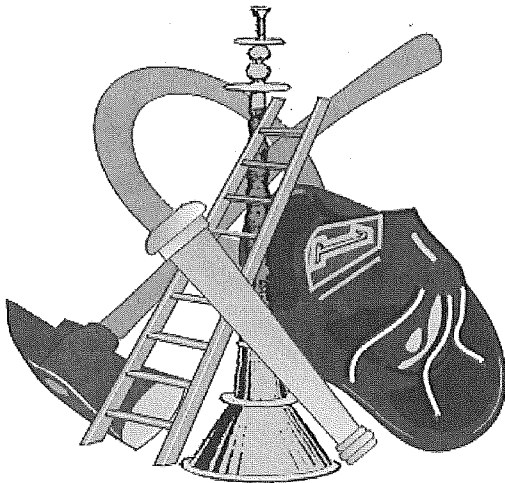
INSTRUCTOR and STUDENT MANUAL

January 2007



LOW ANGLE ROPE RESCUE OPERATIONAL

INSTRUCTOR AND STUDENT MANUAL



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Mission Statement	i
Fire Service Training and Education Program.....	i
Acknowledgments	i
Course Approval.....	iii
Course Outline.....	iv
Texts and References	v
Revisions to the Low Angle Rope Rescue Operational Manual.....	v
Sample Calendar of Events.....	vi
Chapter 1: Course Introduction	1
Course Overview.....	1
Low and High Angle Rope Rescue Definitions.....	1
Rescuer and Victim Safety Considerations.....	1
Student Evaluations.....	2
Chapter 2: Rope Rescue Equipment.....	4
Kernmantle Rescue Rope.....	4
Prusik Loop.....	10
Webbing.....	11
Load-releasing Device	12
Commercial Harness.....	13
Carabiner.....	15
Brake Bar Rack.....	17
Figure Eight Plate with Ears	18
Rescue Pulley.....	20
Mechanical Grab Device.....	21
Anchor Plate.....	22
Edge Protection.....	23
Chapter 3: Rescue Knots and Hitches	25
Qualities of a Rescue Knot.....	25
Rope Terminology	25
Components of Knots and Hitches.....	26
Hitches	27
Knots	28
Chapter 4: Anchor Systems	44
California Code of Regulations, Title 8, Section 1670.....	44
Considerations When Selecting Anchors.....	44
Types of Anchors	45
Sling Anchor Attachments: Pretied.....	46
Single Sling Anchor Attachments: Open.....	51
Multi-Point Self-adjusting Anchor Systems	53
Windlassed Picket Systems.....	57
Chapter 5: Rescuer and Ambulatory Victim Packaging.....	61
Rescuer Packaging.....	61



LOW ANGLE ROPE RESCUE OPERATIONAL



Sample NFPA Class II Harness Instruction Card	62
Ambulatory Victim Packaging Overview	63
Sample Victim Harness Instructions	63
Chapter 6: Types of Litters and Victim Packaging	69
Rescue Litters	69
How to Secure a Victim to a Rescue Litter	71
Alternative Victim Packaging (Optional)	75
Considerations for Packaging Nonambulatory Victims in Unstable Terrain	78
Chapter 7: System Attachments and Fall Restraint	79
Rescuer Attachment to a Rope Rescue System	79
Ambulatory Victim Attachment to a Rope Rescue System	80
Rescue Litter Attachments to a Rope Rescue System	81
Rescuer Attachment to the Litter System	82
Litter Harness Pre-rig	82
Three Rescuer Litter Attachment	84
Four Rescuer Litter Attachment	85
Fall Restraint	86
Components of a Fall Restraint System	87
Chapter 8: Three Main Components of a Rope Rescue System	89
Key Points about the Component Approach	89
Single RPM Configuration	91
Prerigged Dual RPM Systems	92
Chapter 9: Belay/Safety Line Systems	94
Key Points Regarding the Operation of Belay/Safety Line Systems	94
Belay/Safety Line Configurations	95
Lowering Operations – Basic Configuration	96
Retrieval Operations – Basic Configuration	97
Lowering Operations – PMP Configuration (Optional)	98
Retrieval Operations – PMP Configuration (Optional)	99
System Variations	99
Chapter 10: Descending/Ascending	101
Descending	101
Rigging a Fixed Line	102
Rappel Position	105
Ascending	115
Chapter 11: Lower/Raise (Mechanical Advantage) Systems	117
Key Points Regarding Lower/Raise Operations	117
Lowering Line Systems	118
Raising (MA) Systems	119
Lower to Raise Conversion: 3:1 Inline – RPM	119
Lower to Raise Conversion: 5:1 Inline – RPM	121
Lower to Raise Conversions	122



LOW ANGLE ROPE RESCUE OPERATIONAL



3:1 or 5:1 Inline with Directional Pulley	123
Piggyback Systems	127
Pig Rig Construction: 3:1	128
Pig Rig Construction: 5:1	129
Lower to Raise Conversion: 3:1 Pig Rig	130
Lower to Raise Conversion: 5:1 Pig Rig	134
Chapter 12: Load-releasing Methods	139
Rappelling or Lowering Operations.....	139
Raising Operations.....	142
Chapter 13: Rescue Scene Organization and Management.....	147
Command and Control in Low Angle Rope Rescue Operations	147
Considerations for the IC	151
Introduction to Rope Rescue Lowering and Raising Systems.....	154
Example Organization of a Low Angle Rescue Using 3-Person Engines	157
Sample Organization Chart.....	159
Chapter 14: Litter Walkouts	165
The Simple Walkout	165
The Caterpillar Walkout.....	166
The Single Pitch Walkout with a Belay/Safety Line	166
The Multiple Pitch Walkout with a Belay/Safety Line.....	167
Staffing.....	167
Ladders used in Litter Walkouts	169
Chapter 15: Ladder Rescue Systems	170
Moving Ladder Slide	170
Ladder Slide	174
Chapter 16: Evolutions	179
Evolution Components.....	179
Appendix A: Student Task Book.....	201
Responsibilities	201
Instruction for Completing the Task Book	201
Appendix B: Glossary.....	211
Appendix C: Graphics Index	215
Appendix D: Training Site Requirements	221
Low Angle Rope Rescue Operational Equipment Inventory.....	223
Appendix E: Instructor Levels and Requirements.....	225
Instructor Levels	225
Instructor Qualifications	225
Maintaining Primary Instructor Status.....	227
Appendix F: Instructor Trainee Task Book.....	229
Responsibilities	229
Instruction for Completing the Task Book	229



LOW ANGLE ROPE RESCUE OPERATIONAL



Mission Statement

Mission Statement

The mission of State Fire Training is to enable the California fire service to safely protect life and property through education, training, and certification.

Fire Service Training and Education Program

The Fire Service Training and Education Program (FSTEP) was established to provide specific training needs of local fire agencies in California. State Fire Training coordinates the delivery of this training through the use of approved curricula and registered instructors.

The FSTEP series is designed to provide both the volunteer and career fire fighter with hands-on training in specialized areas such as fire fighting, extrication, rescue, and pump operations. All courses are delivered through registered instructors and can be tailored by the instructor to meet your department's specific need. Upon successful completion of an approved FSTEP course, participants will receive an Office of State Fire Marshal course completion certificate.

Acknowledgments

The development of this technical rescue system training curriculum was made possible through cooperation and collaboration between the Office of State Fire Marshal/State Fire Training, the Governor's Office of Emergency Services Fire & Rescue Branch (Special Operations Division), and the California Fire and Rescue Training Authority at Sacramento. Before its publication, the Statewide Training and Education Advisory Committee (STEAC) recommended this guide for adoption by the State Fire Marshal. This guide is appropriate for fire service personnel and for personnel in related occupations.

**State Fire Marshal
State Fire Training**

**Governor's Office of
Emergency Services**

**California Fire & Rescue
Training Authority**

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LOW ANGLE ROPE RESCUE OPERATIONAL



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Alicia Hamilton Fire Service Training Specialist
Rodney Slaughter Deputy State Fire Marshal

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Andy Mauer, Graphics Assistance Trout Stream Designs	Ernie Ojeda Los Angeles Fire Department

Course Approval

In May 2007, the U.S. Department of Homeland Security formally approved this course and issued the following:

<p style="text-align: center;">U.S. Department of Homeland Security Washington, DC 20472</p> <p style="text-align: center;"> FEMA</p> <p style="text-align: center;">May 10, 2007</p> <p>MEMORANDUM TO: Mr. James Ayre California Office of Homeland Security 9800 Goethe Road Box 56 Sacramento, CA 95827-3563</p> <p>FROM: Steven Schuetz Acting Director, Training Training and Exercises Integration National Integration Center</p> <p>SUBJECT: State and Local WMD Training Program Analysis and Validation</p> <p>The purpose of the State and local WMD training program analysis and validation process is to ensure that state and local jurisdictions seeking National Integration Center (NIC), formally the Office of Grants and Training (G&T) approval of their WMD training course materials are submitting training products that are congruent with the standards and guidelines of the NIC training partner course assessment and approval process.</p> <p>Upon receiving the Training and Education (TED), formally the G&T Training Division, Training Approval Template submission for the Low Angle Rope Rescue Operations course, the Center for Domestic Preparedness (CDP) conducted a desk audit of the course materials based on the completed template, the completeness of the materials submitted, and the content to determine if the training materials were consistent with NIC standards.</p> <p>Analysis and evaluation of the submitted materials found that the training course met the required standards. The basis of this conclusion is contained in the attached course evaluation, observations, and findings.</p> <p>Any questions regarding this audit should be directed to Christina Humphries, Evaluations and Standards Branch, Center for Domestic Preparedness, Anniston, Alabama, (256) 847-2108 or email: HumphriesC@edpemail.dhs.gov.</p>	<p style="text-align: center;">COURSE EVALUATION, OBSERVATIONS, AND FINDINGS</p> <p>TRACKING NUMBER: 061122-01R COURSE TITLE: Low Angle Rope Rescue Operational LENGTH: 24.0 hours REVIEWED BY: Christina Humphries COURSE LEVEL: Performance Defensive – Operations COURSE AUDIENCE: Search and Rescue SUBMITTING AGENCY: State of California G&T COURSE APPROVAL RECOMMENDATION: APPROVAL</p> <p>OVERALL COMMENTS ON THE COURSE</p> <ul style="list-style-type: none"> Mechanical / Structural requirements: All required structural elements are present and acceptable. Factual / Content requirements: To best serve the G&T mission this course should be delivered in conjunction with additional WMD/CBRNE terrorism training. Completion (prerequisite or post-requisite) of this training should be enforced as a condition of G&T recognition and support. This requirement should be indicated in the course catalog. <p>SCORECARD RESULTS and COMMENTS</p> <p>Training Support Package (TSP)</p> <ul style="list-style-type: none"> <i>Instructor Guide/Instructor Outline/Instructor Lesson Plans</i> — (2) acceptable <i>Participant Manual/Participant Guide/Participant Workbook</i> — (2) acceptable <i>Audio Visual Support Materials</i> — (2) acceptable <i>Special Support Materials</i> — (2) acceptable <p>Module/Session/Lesson Content</p> <ul style="list-style-type: none"> <i>Scope Statement</i> — (2) acceptable <i>Terminal Learning Objective</i> — (2) acceptable <i>Enabling Objectives</i> — (2) acceptable <i>Resource Lists</i> — (2) acceptable <i>Instructor to Participant Ratio</i> — (2) acceptable <i>Reference Lists</i> — (2) acceptable <i>Practical Exercise(s) Statement</i> — (2) acceptable <i>Evaluation Strategy</i> — (2) acceptable
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LOW ANGLE ROPE RESCUE OPERATIONAL



Course Outline

Course Outline

Course Objectives: To provide the student with...

- a) Information on rope rescue equipment, rescue knots and hitches, anchor systems, system attachments and fall restraint, belay/safety line systems, load-releasing devices.
- b) Methods and techniques used to inspect and maintain rescue rope, webbing, and hardware.
- c) Methods and techniques to tie knots and package victims and rescuers.
- d) Methods and techniques for using rescue equipment to build lower/raise (mechanical advantage) systems.
- e) Information on rescue scene organization and management.
- f) An opportunity to demonstrate and apply basic low angle rope rescue techniques.
- g) Optional information on litter walkouts and ladder systems used in low angle rope rescue operations.

Course Content	24:00
1. Introduction.....	1:00
2. Rope Rescue Equipment	1:00
3. Rescue Knots and Hitches.....	1:00
4. Anchor Systems	2:00
5. Rescuer and Ambulatory Victim Packaging.....	1:00
6. Types of Rescue Litters and Victim Packaging.....	2:00
7. System Attachments and Fall Restraint	1:00
8. Three Main Components of a Low Angle Rope Rescue System.....	2:00
9. Belay/Safety Line Systems	1:00
10. Descending and Ascending Techniques.....	2:00
11. Lower/Raise (Mechanical Advantage) Systems	3:00
12. Load-releasing Methods.....	1:00
13. Rescue Scene Organization and Management.....	1:00
14. <i>Litter Walkouts (Optional)</i>	1:00
15. <i>Ladder Systems (Optional)</i>	2:00
16. Evolutions	5:00
16. <i>Evolutions (Optional)</i>	5:00



LOW ANGLE ROPE RESCUE OPERATIONAL



Course Outline

Texts and References

- American Standards for Testing and Measures (ASTM) Standard F-1740
- ANSI Standards
- CCR, Title 8, Chapter 4, Division of Industrial Safety, Subchapter 4, Article 24, Section 1670 – Fall Restraint, State of California, 1998
- CMC Equipment and Instruction Cards
- Essentials of Fire Fighting, IFSTA, Fourth Edition
- Ferno Equipment
- Field Operations Guide, FIRESCOPE, Current Edition
- Government Code Section 8607
- Junkin Equipment
- NFPA 1006: Standard for Rescue Technician Professional Qualifications, 2003 Edition
- NFPA 1500: Standard on Fire Department Occupational Safety and Health Program, 2002 Edition
- NFPA 1670: Standard on Operations and Training for Technical Search and Rescue Incidents, 2004 Edition
- NFPA 1931: Standard for Manufacturer's Design of Fire Department Ground Ladders, 2004 Edition
- NFPA 1932: Standard on Use, Maintenance, and Service Testing of In-Service Fire Department Ground Ladders, 2004 Edition
- NFPA 1983: Standard on Life Safety Rope and Equipment for Emergency Services, 2006 Edition
- OSHA Regulations
- Rescue Systems 1 Student Manual, SFT, 2000 Edition
- Rope Rescue Manual, California Mountain Company, Third Edition
- Urban Search and Rescue Operational System Description, ICS-US&R-120-1, 2004 Edition

Revisions to the Low Angle Rope Rescue Operational Manual

Second Edition, May 2007

- Modifications made to the objectives at the front of each chapter.
- Modifications made to Figures 2-23, 4-13, 4-14, 4-26, 4-27, 4-28, 4-29, 6-7, and the Instructor Trainee Task Book.



LOW ANGLE ROPE RESCUE OPERATIONAL



Sample Calendar of Events

Sample Calendar of Events

DAY	CHAPTER	TITLE	TIME
1	1	Introduction	8:00
	2	Rope Rescue Equipment	
	3	Rescue Knots and Hitches	
	4	Anchor Systems	
	5	Rescuer and Ambulatory Victim Packaging	
	6	Types of Rescue Litters and Victim Packaging	
2	7	System Attachments and Fall Restraint	8:00
	8	Three Main Components of a Low Angle Rope Rescue System	
	9	Belay/Safety Line Systems	
	10	Descending and Ascending Techniques	
	11	Lower/Raise (Mechanical Advantage) Systems	
3	11	Lower/Raise (Mechanical Advantage) Systems (continued)	8:00
	12	Load-releasing Methods	
	13	Rescue Scene Organization and Management	
	14	<i>Litter Walkouts (Optional)</i>	
	15	<i>Ladder Systems (Optional)</i>	
	16	Evolutions	
			24:00

Minimum course hours = 24. If the optional skills and evolutions are scheduled to be taught, adequate time and materials must be added.