



Standard Guide for Training of a Land Search and Rescue Team Member¹

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1. Scope

1.1 This guide establishes the minimum training requirements, including general and field knowledge, skills, and abilities, for personnel who perform land search and rescue without ropes.

1.2 Land Search and Rescue Team Members perform search and rescue on the surface of the land only, including urban or disaster areas that may be isolated or have lost supporting infrastructure.

1.3 This guide does not provide the minimum training required for performing land rescue in partially or fully collapsed structures, in or on water, in confined spaces, underground (such as caves, mines, and tunnels), or in mountainous terrain.

1.4 Personnel trained to this guide alone are not qualified to direct rope rescues. No knots, rope work, or high angle or low angle rescue skills are included in this guide.

1.4.1 The minimum training required for rope rescue can be found in Guides [F2752](#), [F2954](#), and [F2955](#).

1.4.2 Personnel are qualified to conduct search and rescue operations on non-technical terrain.

1.5 Personnel trained to this guide alone are not qualified to operate in leadership positions.

1.6 Personnel trained to this guide are eligible to be members of Type II search teams or crews as defined in Classification [F1993](#).

1.6.1 Type II teams that may utilize personnel trained to this guide are as follows:

1.6.1.1 Kind A (wilderness);

1.6.1.2 Kind B (urban);

1.6.1.3 Kind J (evidence/cadaver);

1.6.1.4 Kind K (missing aircraft).

1.6.1.5 Personnel trained to this guide are eligible to be members of Kind C (mountainous) teams provided that they are supervised by a Mountain or Alpine endorsed team member.

¹ This practice is under the jurisdiction of ASTM Committee [F32](#) on Search and Rescue and is the direct responsibility of Subcommittee [F32.03](#) on Personnel, Training and Education.

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1.7 Further training may be required before a Land Search and Rescue Team Member can participate on a particular Kind of rescue team, depending on local needs, regulations, or policies of the authority having jurisdiction.

1.8 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory requirements prior to use.*

2. Referenced Documents

2.1 *ASTM Standards:*²

[F1633 Guide for Techniques in Land Search](#)

[F1773 Terminology Relating to Climbing, Mountaineering, Search and Rescue Equipment and Practices](#)

[F1993 Classification System of Human Search and Rescue Resources \(Withdrawn 2014\)](#)³

[F2047 Practice for Workers' Compensation Coverage of Emergency Services Volunteers](#)

[F2209 Guide for Training of Land Search Team Member](#)

[F2752 Guide for Training for Level I Rope Rescue \(R1\) Rescuer Endorsement](#)

[F2890 Guide for Hazard Awareness for Search and Rescue Personnel](#)

[F2954 Guide for Training for Level II Rope Rescue \(R2\) Rescuer Endorsement](#)

[F2955 Guide for Training for Level III Rope Rescue \(R3\) Rescuer Endorsement](#)

[F3068 Guide for Contents and Use of a Position Task Book \(PTB\)](#)

2.2 *Other Documents:*

[NWCG PMS 307 Work Capacity Test](#)⁴

3. Terminology

3.1 *Definitions of Terms Specific to This Standard:*

² For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

³ The last approved version of this historical standard is referenced on www.astm.org.

⁴ Available from NWCG IRM-PMO, National Interagency Fire Center, 3833 S. Development Avenue, Boise, ID 83705, www.nwcg.gov.

3.1.1 *high angle, n*—terrain whose average slope has an angle greater than 50° from horizontal.

3.1.2 *land rescue team, n*—organized group of people who perform rescue on the surface of the earth without the use of ropes.

3.1.3 *low angle, n*—terrain whose average slope has an angle of 30 to 50° from horizontal.

3.1.4 *non-technical terrain, n*—a tract of land characterized by minimal slopes and little variation in elevation, where a person is able to move safely and effectively on two feet, without handholds, and without the need for a belay.

3.1.5 *qualified supervisor, n*—individual with demonstrated knowledge or competence in a task, to whom the authority having jurisdiction (AHJ) has granted the authority to observe and oversee an individual performing that task.

3.1.6 *rescue, n*—operation to retrieve persons in distress, provide for their initial medical or other needs, and deliver them to a place of safety.⁵

3.2 For definitions of other terms used in this guide, see Terminology **F1773**, Guide **F1633**, Classification **F1993**, Practice **F2047**, Guide **F2209**, and other references listed in this guide.

4. Significance and Use

4.1 This guide establishes the minimum knowledge, skills, and abilities that a person shall have to perform as a Land Search and Rescue Team Member. No other skills are included or implied.

4.2 Every person who is identified as a Land Search and Rescue Team Member shall have met the requirements of this guide.

4.3 This guide is to be used by individuals and agencies having jurisdiction that wish to identify the minimum training required for a Land Search and Rescue Team Member.

4.3.1 Although this guide establishes the minimum training required for a Land Search and Rescue Team Member, it does not imply that a Land Search and Rescue Team Member is a “trainee,” “probationary,” or other similar term member of an AHJ.

4.3.2 Determining the requirements and qualifications for land search and rescue team members is the responsibility of the AHJ.

4.3.3 The AHJ shall determine the depth or detail of training required to meet these needs.

4.3.4 Nothing in this guide precludes an AHJ from adding additional requirements for its own members.

4.4 This guide can be used to evaluate a document or training program to determine if its content includes the topics necessary for training individuals to operate as a Land Search and Rescue Team Member.

4.5 This guide by itself is not a training document. It is an outline of the topics required for training or evaluating a Land

Search and Rescue Team Member, although it can be used to develop a training document or program.

4.6 This guide does not stand alone and shall be used with the referenced documents to provide the specific information needed by a Land Search and Rescue Team Member or AHJ.

4.7 This guide can be used to evaluate a document to determine if its content meets the necessary topics for training a Land Search and Rescue Team Member. Likewise, the guide can be used to evaluate an existing training program to see if it meets the requirements of this guide.

4.8 The knowledge and skills presented in the following sections are not in any particular order and do not represent a training sequence.

4.9 A Land Search and Rescue Team Member shall document his or her training by completion of a position task book, compliant with Guide **F3068**, or by field demonstration under qualified supervision.

4.10 Unless stated otherwise, an ability or proficiency in a skill shall be demonstrated for initial qualification and then as often as required by the AHJ.

4.11 Except where a physical skill or ability shall be demonstrated, the AHJ shall determine the best way to evaluate a person’s knowledge. This may be by written examination, oral examination, demonstration, or by some combination of the three.

4.12 Additional skill set-specific endorsements may be used in conjunction with this guide to train rescue personnel for other rescue disciplines.

5. Personal Fitness and Health

5.1 Land Search and Rescue Team Members shall demonstrate annually that they meet the requirements of a medical fitness standard determined by the AHJ.

5.2 Land Search and Rescue Team Members shall demonstrate annually that they meet the requirements of a physical performance standard determined by the AHJ.

5.2.1 The recommended minimum physical performance requirement for Land Search and Rescue Team Members is the “Moderate” level as defined in NWCG PMS 307 (see **Appendix X1**).

6. General Knowledge and Skills

6.1 A Land Search and Rescue Team Member shall meet all requirements of Guide **F2209**.

6.2 A Land Search and Rescue Team Member shall maintain certification in adult, child, infant, and two rescuer CPR.

6.3 A Land Search and Rescue Team Member shall maintain certification in basic first aid or a more advanced level of emergency care.

7. Personal Safety

7.1 As determined by the AHJ, a Land Search and Rescue Team Member working on or around a rescue operation shall wear, as a minimum, Personal Protective Equipment (PPE) including, but not limited to, the following:

7.1.1 Helmet;

⁵ Definition from the “National Search and Rescue Plan of the United States (NSP),” 2007, http://www.uscg.mil/hq/cg5/cg534/manuals/Natl_SAR_Plan%282007%29.pdf

- 7.1.2 Gloves;
- 7.1.3 Eye protection;
- 7.1.4 Hearing protection.

7.2 Additional land rescue-specific PPE may be required by the AHJ.

7.3 A Land Rescue Team Member shall demonstrate the ability to inspect PPE for the purpose of identifying wear, damage, and operational readiness.

8. Rescue Concepts and Capabilities

8.1 A Land Rescue Team Member shall be familiar with land rescue team equipment commonly used by the AHJ. Such equipment may include, but is not limited to, the following:

- 8.1.1 Medical equipment;
- 8.1.2 Patient packaging equipment;
- 8.1.3 Litters;
- 8.1.4 Transport vehicles;
- 8.1.5 Communications equipment.

8.2 A Land Search and Rescue Team Member shall explain the reasons to carry, and describe or demonstrate the use of, all land rescue-specific personal equipment required by the AHJ.

8.3 A Land Rescue Team Member shall demonstrate the ability to appropriately clean and maintain land rescue team equipment, including documenting these activities in equipment logs and other records, as required by the AHJ.

8.4 A Land Search and Rescue Team Member shall understand the following rescue principles:

- 8.4.1 The significance of the “Golden Hour;”
- 8.4.2 The concept of patient triage.

8.5 A Land Search and Rescue Team Member shall identify different types of patient transport devices (litters) appropriate for backcountry use, and discuss the advantages and disadvantages of each.

8.6 A Land Search and Rescue Team Member shall know the skills and responsibilities required for the following land rescue team positions:

- 8.6.1 Land rescue team leader;
- 8.6.2 Radio operator;
- 8.6.3 Navigator;
- 8.6.4 Land rescue team member.

8.7 Land Search and Rescue Team Members shall demonstrate that they have the following capabilities:

8.7.1 Able to be self-sufficient in the normal area of operation for a period of at least 24 h;

8.7.2 Able to perform their normal duties in any and all normally expected conditions, including darkness, in their normal area of operation;

8.7.3 Able to perform their normal duties in any and all non-technical terrain likely to be encountered in the normal area of operation;

8.7.4 Able to understand and make necessary adjustments for performing normal rescue duties under reasonably anticipated seasonal conditions.

8.7.5 Able to recognize hazardous environments and adjust their actions to avoid or mitigate the hazards;

8.7.6 Able to safely and effectively perform land rescue duties within an incident management system;

8.7.7 Able to safely and effectively locate and access a patient in low angle terrain in the normal area of operations;

8.8 Land Search and Rescue Team Members shall, under the direction of medically trained personnel that have assumed primary patient care on scene, demonstrate that they can perform the following patient stabilization and packaging skills:

8.8.1 Employ personal protective barriers as needed.

8.8.2 Package a patient in a litter, including implementation of provisions for the following:

- 8.8.2.1 Spinal immobilization;
- 8.8.2.2 Patient thermal, environmental, and physical protection;
- 8.8.2.3 Securing a patient in the litter to prevent unwanted movement during transport;
- 8.8.2.4 Access to patient injuries;
- 8.8.2.5 Access to patient care equipment.

8.9 Land Search and Rescue Team Members shall demonstrate an understanding of the unique needs of patients during extended transports including the following:

- 8.9.1 Procedures for managing body fluid isolation;
- 8.9.2 Use of personal protective techniques to prevent contamination by body fluids;
- 8.9.3 Adapting immobilization, patient protection, and security of patient in litter to facilitate patient care during transport;
- 8.9.4 Methods for mitigating the negative effects of prolonged transport.

8.10 Land Search and Rescue Team Members shall demonstrate the ability to perform the following litter transport skills:

- 8.10.1 Lift and load a patient into a litter;
- 8.10.2 Lift and lower a loaded litter;
- 8.10.3 Carry a litter with 4-6 bearers in non-technical terrain;
- 8.10.4 Pass obstacles with a litter using standard techniques such as hand pass and lap pass;
- 8.10.5 Use litter transport assist devices such as litter wheel, all terrain vehicle (ATV), or other equipment used by the AHJ;
- 8.10.6 Employ litter bearer rotation techniques with minimal disruption of the evacuation;
- 8.10.7 Assist with transport of litters to and from, loading litters into, and unloading litters from, aircraft used by the AHJ.

8.11 Land Search and Rescue Team Members shall demonstrate the ability to transfer a patient to emergency medical services (EMS) in accordance with local medical protocol.

9. Keywords

9.1 incident; rescue; rescuer; responder; response; SAR; search and rescue; training; qualifications

APPENDIX
(Nonmandatory Information)
X1. WORK CAPACITY TESTS⁶

X1.1 The United States Forest Service (USFS) has defined the work levels for wildland firefighters. The three levels are defined as follows:

X1.1.1 Arduous work involves above average endurance (aerobic fitness), lifting more than 50 lb (muscular fitness), and occasional demands for extraordinarily strenuous activities. All wildland firefighters perform arduous duty.

X1.1.2 Moderate work involves lifting 25 to 50 lb, and occasional demand for moderately strenuous activity. Safety officers and fire behavior officers perform moderate duty.

X1.1.3 Light work involves mainly office-type work with occasional field activity.

X1.2 The work capacity test for each level is defined in **Table X1.1**.

X1.3 All tests are to be conducted on level ground.

TABLE X1.1 Work Capacity Test for Each Work Level

| Work Level | Test | Description |
|------------|------------|---------------------------------------|
| Arduous | Pack Test | 3-mile hike with 45-lb pack in 45 min |
| Moderate | Field Test | 2-mile hike with 25-lb pack in 30 min |
| Light | Walk Test | 1-mile hike with no pack in 16 min |

X1.4 Test times shall be adjusted for altitude, as shown in **Table X1.2**.

TABLE X1.2 Test Times Adjusted for Altitude

| Altitude, ft | Pack Test, s | Field Test, s | Walk Test, s |
|--------------|--------------|---------------|--------------|
| 4000 to 5000 | 30 | 20 | 10 |
| 5000 to 6000 | 45 | 30 | 15 |
| 6000 to 7000 | 60 | 40 | 20 |
| 7000 to 8000 | 75 | 50 | 25 |
| 8000 to 9000 | 90 | 60 | 30 |

⁶ http://www.fs.fed.us/fire/safety/wct/wct_index.html

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