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## Standard Practice for Training a Land Search Tracker<sup>1</sup>

This standard is issued under the fixed designation F2852; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reappraisal. A superscript epsilon ( $\epsilon$ ) indicates an editorial change since the last revision or reappraisal.

### 1. Scope

1.1 This guide establishes the minimum training, including knowledge, skills, and abilities, required for personnel operating as Trackers in support of a land search effort.

1.2 A Tracker Endorsement alone is not sufficient to indicate that an individual has the knowledge, skills, or abilities to perform any specific duties, including search and rescue operations, beyond those defined within this guide.

1.3 A Tracker tracks on the surface of the land only, including urban or disaster areas that may be isolated or have lost supporting infrastructure.

1.4 This guide does not provide the minimum training requirements for tracking in partially or fully collapsed structures, in water, in confined spaces, or underground (such as in caves, mines, and tunnels).

1.5 Human land SAR resources that may utilize personnel trained to this guide are classified in Classification **F1993**.

1.5.1 Individuals trained to this guide are qualified to operate on teams or crews classified as Category – Land Search of Kind – Tracking.

1.5.2 Further training may be required before Tracking Land Search personnel may participate on particular Category or Kind of SAR resource, depending on local needs, regulations, or policies of the Authority Having Jurisdiction (AHJ).

~~1.6 This guide 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 guide to establish appropriate safety and health practices and determine the applicability of regulatory requirements prior to use.~~

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1.7 This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.

### 2. Referenced Documents

2.1 *ASTM Standards:*<sup>2</sup>

**F1633** Guide for Techniques in Land Search (Withdrawn 2017)<sup>3</sup>

**F1767** Guide for Forms Used for Search and Rescue

**F1773** Terminology Relating to Climbing, Mountaineering, Search and Rescue Equipment and Practices

**F1993** Classification System of Human Land Search and Rescue Resources

**F3068** Guide for Contents and Use of a Position Task Book (PTB)

### 3. Terminology

3.1 *Definitions of Terms Specific to This Standard:*

<sup>1</sup> 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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<sup>2</sup> For referenced ASTM standards, visit the ASTM website, [www.astm.org](http://www.astm.org), or contact ASTM Customer Service at [service@astm.org](mailto:service@astm.org). For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

<sup>3</sup> The last approved version of this historical standard is referenced on [www.astm.org](http://www.astm.org).

3.1.1 *bruising*, *n*—footfall damage to vegetation, usually indicated by color variation contrasting with surrounding area of same vegetation.

3.1.2 *flattening*, *n*—a part of the surface of the ground compressed in a manner consistent with that of a human footfall. A compressed area may include loose debris, vegetation living and dead, and surface moisture.

3.1.3 *disturbance*, *n*—any disturbance of the natural state of ground surface, including leaf litter, loose debris, duff, dislodged or embedded objects probably caused by footfall movement.

3.1.4 *flagging*, *n*—vegetation turned in a direction of travel.

3.1.5 *prime*, *adj*—*sign or area*, sign or evidence that has the highest probability of being made by the specific person being tracked; area that has the highest probability of containing evidence from the specific person being tracked.

3.1.6 *scuff*, *n*—a mark caused by footfalls contacting firm ground indicating movement in a determinable direction of travel.

3.1.7 *shine*, *n*—light reflected from within the human footfall damage.

3.1.8 *sign cutting*, *v*—the systematic and regimented procedure used to locate and identify the physical evidence of the passage of a specific person or persons.

3.1.9 *step by step method*, *n*—a process of identifying contiguous tracks, sign, or both in succession, and acknowledging each one as first described by Albert Taylor, United States Border Patrol.

3.1.10 *step interval*, *n*—normal walking distance between footfalls measuring between a toe dig and a heel strike.

3.1.11 *tracking or track*, *v*—the systematic and methodical identification of physical evidence which thereby allows one to follow a specific person or persons.

3.1.12 *transfer*, *n*—any substance inadvertently collected by footgear in a footfall and deposited by succeeding footfalls.

3.1.13 *unnatural marks*, *n*—straight lines, curves, parallel lines, or marks not related to the natural world.

3.1.14 *weeping*, *n*—the natural exudation of vegetation fluids resulting from footfall damage.

3.2 For definitions of other terms used in this guide see Guide F1633, Terminology F1773, Classification F1993, and other references within.

#### 4. Significance and Use

4.1 This guide establishes the minimum knowledge, skills, and abilities that a person must have to perform as a Tracker. No other skills are included or implied.

4.2 Every person who is identified as a Tracker shall have met the requirements of this guide.

4.2.1 Nothing in this guide precludes the AHJ from adding additional requirements for its personnel.

4.3 Training to this guide is not an indication that a person possesses adequate field skills or knowledge to make mission critical decisions.

4.4 Though this guide establishes a basic training standard, it does not imply that a Tracker is a “trainee,” “probationary,” or other similar team member designation of an organization.

4.4.1 Determining the requirements and qualifications for a Tracker is the responsibility of the AHJ.

4.5 This guide does not stand alone and must be used with the referenced documents to provide the specific information needed by a Tracker or AHJ.

4.6 This guide by itself is not a training document. It is an outline of the topics required for training or evaluating Tracker endorsed personnel.

4.7 This guide can be used to evaluate a book or other document to determine if its content includes the information required for training a Tracker. Likewise, this guide may be used to evaluate an existing training program to see if it meets the requirements of this guide.

4.8 The knowledge, skills, and abilities defined in this guide are not presented in any particular order and do not represent a training sequence.

4.9 A Tracker shall document his or her training, as directed by the AHJ, which might include the completion of a position task book, compliant with Guide F3068, or by field demonstration under qualified supervision.

4.9.1 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.

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

## 5. General Knowledge and Skills

5.1 To be endorsed as a Tracker, a Land Search Team Member must complete the National Incident Management System (NIMS) course IS-200, “ICS-200: ICS for Single Resources and Initial Action Incidents.”

## 6. Equipment

6.1 A Tracker shall carry, as a minimum, the PPE for personal safety suitable for the normal area of operations.

6.2 A Tracker shall carry the equipment required for tracking in the field. A list of recommended equipment can be found in [Appendix X1](#).

6.3 A Tracker shall be able to explain the reasons to carry, and demonstrate the use of all tracking equipment required by the AHJ.

## 7. Specific Knowledge and Skills for Tracking

7.1 A Tracker shall explain the significance, as it relates to the mission, of the following:

7.1.1 How track evidence supports initial information regarding the search subject;

7.1.2 How establishing the direction of travel affects search efforts;

7.1.3 How trackers can limit a search area.

7.2 A Tracker shall demonstrate the ability to identify and describe a track as follows:

7.2.1 Measuring the overall length, width of sole, width of heel, length of heel, or if no heel is present, some other visible feature;

7.2.2 Determining the type, shape, and condition of the footwear being worn;

7.2.3 Drawing a picture of a track including all unique marks and designs.

7.3 A Tracker shall demonstrate the ability to set up a tracking stick as follows:

7.3.1 Placing point of stick on the heel strike of the next print, mark stick over the existing toe dig, and place a second mark over the existing heel strike.

7.3.2 The distance between the point of the stick at the next heel strike and the existing toe dig is referred to as the *step interval*.

7.4 A Tracker shall demonstrate the ability to use a tracking stick to find the next track when using the Step-by-Step method as follows:

7.4.1 Place observed track between the markings;

7.4.2 Pivot the point of the stick left and right in a sixty-degree arc;

7.4.3 Focus your eyes in the prime sign area, at the end of the stick, for the next track;

7.4.4 Locate track evidence;

7.4.5 Mark track by placing an indicator behind the heel strike;

7.4.6 Move on to next track;

7.4.7 Show the trend of the direction of travel by occasionally placing visible indicators above ground level.

7.5 A Tracker shall demonstrate the ability to utilize the sun or another light source to reveal sign using the following:

7.5.1 A mirror;

7.5.2 A handheld light that provides illumination, but does not contribute to eye fatigue.

7.6 A Tracker shall demonstrate the ability to recognize, identify, and describe the following types of sign under actual conditions, and be able to articulate how the sign is related to the track:

7.6.1 Bruising;

7.6.2 Flattening;

7.6.3 Disturbance;

7.6.4 Flagging;

7.6.5 Scuff or scrape;

7.6.6 Shine;

7.6.7 Transfer;

7.6.8 Unnatural marks;

7.6.9 Weeping.

7.7 A Tracker shall demonstrate the ability to observe and explain simple sign aging characteristics and estimate the time elapsed since the sign was left.

7.7.1 A Tracker shall include factors of vegetation damage, rain, sun, and other natural effects.

7.8 A Tracker shall demonstrate the ability to recognize and explain footprint characteristics related to the manner and movements of the sign maker.

7.9 A Tracker shall demonstrate the ability to function in any position in a recommended three-person tracking team as follows:

7.9.1 *Point Person*, using a tracking stick to follow track evidence.

7.9.2 *Right or Left Flanker*; one step behind the point person, each of whom assists the point person from a different perspective and also watches for approaching sign on either side.

7.9.3 A tracker shall identify the rationale for frequent rotation among the positions, including issues of back strain, eye strain, and focused attention cognitive fatigue.

7.10 A Tracker shall explain the concept and significance of “sign cutting,” including the following:

7.10.1 How natural and man-made barriers help locate human sign;

7.10.2 How multiple search or tracking teams can be used to advance a specific sign line in an organized and regimented manner;

7.10.3 How a Tracker can advance to another location to detect sign or tracks based on the probable movements of the search subject.

7.11 A Tracker shall be able to complete written documents required by the AHJ to document a tracker’s efforts and provide other trackers with a summary of the relevant information. **Appendix X2** provides an example of the documentation that a Tracker is expected to complete.

## **8. Keywords**

8.1 search; track

## **APPENDIXES**

### **(Nonmandatory Information)**

#### **X1. EQUIPMENT RECOMMENDED FOR TRACKING**

X1.1 Clothing appropriate to conditions;

X1.2 A broad-brimmed hat for protection, shade, and reducing glare;

X1.3 Tracking stick, about 42 in., with two rubber bands or ~~Ø-rings~~; O-rings;

X1.4 Measuring device (small tape measure that locks open);

<https://standards.iteh.ai/catalog/standards/sist/4ce460c8-2cc5-42a8-9c4c-392e61645df8/astm-f2852-19>

X1.5 Small notebook (rain-proof recommended);

X1.6 Tracking cards (rain-proof recommended);

X1.7 Writing instrument (rain-proof recommended);

X1.8 Flagging material (biodegradable recommended) or scraps of toilet paper;

X1.9 Pins, powder, or other track identification material;