



Standard Guide for Evaluating Trailing Search Dog Crews or Teams¹

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1. Scope

1.1 This guide defines the knowledge, skills, and abilities required for a dog crew or team to perform a trailing search.

1.2 Trailing search dog crews or teams perform searches on the surface of the land, including open urban or wilderness areas, as well as mountainous terrain, and alpine environments.

1.2.1 Additional training shall be required for trailing search dog crews or teams that search in mountainous terrain, alpine environments, and in caves, mines, and tunnels.

1.3 This guide does not include the knowledge, skills, and abilities required to search in partially or fully collapsed structures, confined spaces, or on bodies of water, inland or oceanic.

1.4 Trailing search dog crews or teams trained to meet the requirements of this guide may operate in urban and disaster areas that may be isolated, or have lost their infrastructure.

1.5 Trailing search dog crews or teams must work under qualified supervision deemed appropriate by the AHJ.

1.6 Search dog crews or teams are eligible to be members of Type I and II SAR crews or teams of the following Kinds, as defined in Classification **F1993**:

- 1.6.1 Kind A (Wilderness);
- 1.6.2 Kind B (Urban);
- 1.6.3 Kind C (Mountainous);
- 1.6.4 Kind G (Cave);
- 1.6.5 Kind H (Mine);
- 1.6.6 Kind I (Avalanche);
- 1.6.7 Kind K (Aircraft); and
- 1.6.8 Kind L (Unclassified).

1.7 Further training may be required before a trailing search dog crew or team can fully participate on a particular Type and Kind of team or crew, based on specific local need, regulations, or policies.

1.8 This guide does not provide a theoretical basis for how a trailing search dog crew or team functions.

1.9 *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 limitations prior to use.*

2. Referenced Documents

2.1 ASTM Standards:

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

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

F1847 [Guide for Minimum Training of Search Dog Crews or Teams](#)

F1848 [Classification System for Canine Search Resources](#)

F1879 [Guide for Demonstrating Obedience and Agility in Search and Rescue Dogs](#)

F1993 [Classification System of Human Search and Rescue Resources](#) (Withdrawn 2014)²

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

F2685 [Guide for Training of a Land Search Team Leader \(STL\)](#)

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

F3072 [Guide for Intermediate Wilderness GPS/GNSS Use \(GPS/GNSS-IIW\) Endorsement](#)

2.2 Other References:

[SWGDOG Approved Guideline SC1 – Terminology](#)

[United States Department of Agriculture Work Capacity Testing for Wildland Firefighters](#) (March 2002)

[National Search and Rescue Council Land Search and Rescue Addendum to the National Search and Rescue Supplement to the International Aeronautical and Maritime Search and Rescue Manual, version 1.0](#) (November 2011)

3. Terminology

3.1 Definitions:

3.1.1 *age, n*—in reference to a trail, the time between when a trail is created by an individual and when a trailing dog attempts to follow the trail.

3.1.2 *decoy, n*—a person in the search area who does not match the target odor.

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² The last approved version of this historical standard is referenced on www.astm.org.

3.1.3 *ground scent*, *n*—residual scent remaining after a person has passed. This may be human odor on the ground, vegetation, or other nearby surfaces, as well as that produced by disturbance of the environment (crushed vegetation, exposed soil, etc.).

3.1.4 *scent*, *n*—the act of presenting a target odor sample to a scent-discriminating search dog.

3.1.5 *scent discriminating*, *v*—an ability whereby a search dog can locate and follow the scent of a specific person (target).

3.1.6 *search dog team* or *search dog crew*, *n*—a single dog and handler (and support person(s) if used) that are deployed as a single resource.

3.1.7 *track*, *n*—ground scent in the immediate vicinity of an individual’s footsteps.

3.1.8 *tracking*, *v*—a search dog action wherein it follows a track.

3.1.9 *tracking dog*, *n*—a dog that has demonstrated the ability to locate and follow a track.

3.1.10 *trail*, *n*—ground scent deposited by an individual as a track or in nearby plumes.

3.1.10.1 *Discussion*—Ground scent can be deposited on horizontal, sloped, and vertical surfaces such as walls, rocks, or trees and may also be airborne. In addition, scent plumes from an individual can exist a good distance from the person’s actual footsteps due to factors such as terrain, weather, vegetation, substrate, and vehicular traffic.

3.1.11 *trailing*, *v*—a search dog action wherein it follows a specific person’s trail.

3.1.12 *trailing dog*, *n*—a dog that has demonstrated the ability to locate and follow a target individual’s trail.

3.1.13 *training log*, *n*—a search dog handler’s written record that documents all personal and canine training, including exercises and missions.

3.2 Terminology not defined in this classification, but included in this guide, may be found in Terminology [F1773](#), Guide [F1847](#), and Reference SWGDOG SC1.

4. Significance and Use

4.1 A trailing search dog crew or team is required to have, at a minimum, the knowledge, skills, and abilities outlined within this guide.

4.1.1 A trailing search dog crew or team that meets the requirements of this guide is a Trailing Canine Search Resource, as defined in Classification [F1848](#).

4.2 Trailing search dogs that meet the requirements of this guide shall be tested by the AHJ using an aged trail of 6-12 h or as determined by the AHJ. Ages for competency trails shall take into consideration a minimum age, which should approximate the average response time for search dog crews.

4.3 This guide only establishes the minimum knowledge, skills, and abilities required for a trailing search dog crew or team to perform trail searches. No other skills are included or implied.

4.4 This guide is an outline of the topics required for training or evaluating a trailing search dog team or crew, and may be used to assist in the development of a training document or program.

4.5 This guide can be used to evaluate a document to determine if its content includes the topics necessary for training trailing search dog crews or teams. Likewise, this guide can be used to evaluate an existing training program to see if it meets the requirements in this guide.

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

4.7 Though this guide establishes minimum training requirements, it does not imply that a trailing search dog team or crew is a “trainee,” “probationary,” or other similarly termed part of an organization.

4.7.1 The AHJ is responsible for determining the requirements and qualifications for its member ratings.

4.8 A trailing search dog crew or team shall document training by completion of a position task book, compliant with Guide [F3068](#), or by field demonstration under qualified supervision. Where proficiency in a skill or ability must be demonstrated, unless otherwise stated, it shall be demonstrated for initial qualification, and then as often as required by the AHJ.

4.9 A trailing search dog crew or team shall demonstrate its competency at a frequency set by the AHJ.

5. General Knowledge, Skills, and Abilities

5.1 The trailing search dog crew or team shall meet the requirements of Guide A4.

5.2 The canine member of a search dog crew or team that works off lead shall meet the requirements of Guide [F1879](#).

5.3 The canine handler shall be endorsed for intermediate wilderness GPS/GNSS use as defined in Guide [F3072](#).

5.4 The trailing dog team’s or crew’s handler shall meet physical performance requirements determined by the AHJ.

5.5 The recommended minimum physical performance requirement for a trailing search dog crew’s or team’s handler is the “Moderate” level defined in “Work Capacity Testing for Wildland Firefighters” ([Appendix X2](#)).

6. Specific Skills and Abilities for Trailing Search Dog Crews or Team

6.1 The handler shall demonstrate an understanding of how common factors affect the deposition and location of ground scent including, but not limited to, the following:

6.1.1 Weather;

6.1.2 Topography;

6.1.3 Time of day;

6.1.4 Season; and

6.1.5 Scent source duration (i.e., the amount of time the subject has been in place).

6.2 The handler shall demonstrate the ability to recognize and predict scent movement in the topography and vegetation found in the team's normal area of operation.

6.3 The handler shall demonstrate the ability to clearly describe the Trailing Search Dog Crew's or Team's performance during an operational period.

6.4 In a field test designed in accordance with the features and parameters defined in **Annex A1**, a trailing search dog crew or team shall demonstrate the following:

NOTE 1—See **Appendix X1** for a discussion regarding the philosophy of competency testing.

6.4.1 The ability to locate a target individual by performing a trailing search.

6.4.2 The ability to acquire the scent of a target individual, after the team begins searching at a location where the target individual's scent is not present.

6.4.3 The ability to determine the direction of travel of a target individual.

6.4.4 The ability to follow a target individual's trail through topography and vegetation found in the dog team's or crew's normal area of operation.

6.4.5 The ability to follow a target individual's trail that has been contaminated with scent from at least one decoy.

6.4.6 The ability to operate at night.

6.4.7 The ability of the handler and canine to operate as a team.

6.4.8 The canine consistently reacts to the target scent during the search.

6.4.9 The handler observes and correctly interprets signals and behaviors provided by the canine.

7. Record Keeping

7.1 The trailing team's or crew's handler shall maintain complete and accurate training and deployment logs for each canine team.

7.2 These logs must be made available for inspection and review upon the request of the AHJ.

7.3 The AHJ shall determine the requirements for the training and deployment logs. It is recommended that each log contain, at minimum, the following information:

7.3.1 Date, time, and duration of all training exercises and deployments;

7.3.2 General weather conditions;

7.3.3 General environmental conditions;

7.3.4 General location;

7.3.5 General training scenario or deployment description and results; and

7.3.6 Issues identified and planned corrective actions.

8. Keywords

8.1 canine; dog; trailing; training log; trailing search

ANNEX

(Mandatory Information)

A1. TRAILING TEST PARAMETERS AND LIMITATIONS

A1.1 The trail shall be aged 6 to 12 h or as determined by the AHJ.

A1.1.1 The minimum age for a competency test trail shall be no less than the average response time for search dog crews or teams in the normal area of operation.

A1.2 The trail shall be 1 ± 0.25 mile (1.6 ± 0.40 km) in length and shall be laid in terrain typical to the team's normal area of operation.

A1.3 The start of the trail shall be unmarked.

A1.3.1 The start of the trail shall be located in an area no smaller than 225 ft² (approximately 21 miles²) and determined by the AHJ.

A1.3.2 The start of the trail shall contain a contaminating trail(s) made by one or more individuals.

A1.3.3 The perimeter of the start may be marked.

A1.4 The AHJ shall specify the maximum time allowed for the trailing dog team or crew to acquire the target scent.

A1.5 The trail shall traverse a minimum of two obstacles typical of the trailing dog team's or crew's normal area of operation, such as marshy areas, streams, creeks, roads, rock ledges, fences, etc.

A1.6 The trail shall have no less than two decision points (i.e., a fork in a foot path or road that the trail is following, a road crossing, fence line, etc.) where the trailing team or crew must successfully determine the target subject's direction.

A1.7 The trail shall have a minimum of four turns that are greater than 45° with no two consecutive turns being less than or equal to 90° in the same direction (left or right) unless the turns are made at a distance apart or are separated by an obstacle that prevents the team from inadvertently locating the trail beyond the turn.

A1.8 The target's trail shall be crossed by one or more decoys at least two times

A1.8.1 The contaminating trail(s) shall be laid after the target trail.

APPENDIXES

(Nonmandatory Information)

X1. GOALS AND PHILOSOPHY OF COMPETENCY TESTING

X1.1 The competencies identified in this standard are from the search management perspective and have been identified as being important for operational performance. The very nature of defining fixed tests while testing biological systems has distinct caveats that need to be appreciated and understood. These issues only serve to bring focus to the concept that this guide attempts to capture competency while testing and observing handlers and their dog in real time.

X1.2 Essentially, the testing and qualification of a dog team attempts to quantitatively measure a set of parameters in a system that is inherently qualitative. A dog, a biological detector, is tasked with detecting a signal or scent that is being dynamically impacted by a multitude of factors in real time. The reading and interpretation of the biological is then occurring by a secondary biological detector, the handler, who is being dynamically impacted by a separate set of factors in real time. Further complicating the scenario is the fact that the primary biological detector, the dog, is detecting a signal that is essentially undetectable by the handler (or evaluators). Therefore, it is unreasonable to focus on a simple quantitative solution (test) for the qualification of dogs. Instead the concept of competency moves to the forefront of a qualification system.

X1.3 Fixed tests can be used to provide a quantitative measure of the dog (or dog team) but it is ill advised. Instead, tests should be used to develop a reasonable testing paradigm where a handler’s and dog’s competency is judged. Consider the following scenario: a handler and dog being tested under the quantitative parameters for a 40-acre area search test on flat

open terrain only covers 0.5 acres of the total area in 59 min and locates the subject, who is not placed in any unusual fashion. Although the handler and dog in question passed in accordance with the quantitative parameters, a strong argument can be put forth that the handler failed to display the competency required to operate as a typical SAR resource would be expected to operate.

X1.4 Every effort has been made to reflect this philosophy of competency-based testing in this guide. Whenever possible specific quantitative stipulations have been avoided, instead general parameters are provided so that AHJs and certifying organizations can develop the specific criteria for their local or specific conditions. AHJs and certifying organizations are encouraged to utilize this guide to help identify and define critical competencies for certification or credentialing. The challenge for AHJs and organizations is, while using this guide, to develop the fair but subjective measures that are required to determine competency while ensuring professionalism and interagency operability.

X1.5 In developing this guide, the task group reviewed standards from dog organizations from around the United States and the world. During that review process, various competencies were identified and adopted into this guide. Simultaneously, every effort has been made to ensure that this guide provides a reasonable pathway ensuring operational competency while not being overly complicated or difficult for AHJs and organizations to utilize.

X2. WORK CAPACITY TESTS³

X2.1 The United States Forest Service (USFS) has defined the following work levels for wildland firefighters:

X2.1.1 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.

X2.1.2 Moderate work involves lifting 25 to 50 lb and occasional demand for moderately strenuous activity. Safety officers and fire behavior officers perform moderate duty.

X2.1.3 Light work involves mainly office-type work with occasional field activity.

X2.2 The work capacity test for each level is defined in the following table:

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.

X2.3 All tests are to be conducted on level ground.

X2.4 Test times shall be adjusted for altitude, as shown in the following table:

Altitude, ft	Pack Test, s	Field Test, s	Walk Test, s
4,000 to 5,000	30	20	10
5,000 to 6,000	45	30	15
6,000 to 7,000	60	40	20
7,000 to 8,000	75	50	25
8,000 to 9,000	90	60	30

³ http://www.fs.fed.us/fire/safety/wct/wct_index.html

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