

# MAINE ASSOCIATION FOR SEARCH AND RESCUE

## Search Team Member Certification Standard Appendix C

### Evaluation Testing Objectives

**To be certified by the Maine Association for Search and Rescue (MASAR) as a Search Team Member, a person must demonstrate that they have the following knowledge, skills, and abilities.**

- I. A Search Team Member shall demonstrate knowledge of the regulations, policies, procedures, and guidelines of their unit, MASAR, and the State of Maine including the following:
  - A. Their unit's call out and dispatch procedure.
  - B. The basic information needed when alerted to respond:
    1. Mission type
    2. Staging area location
    3. Check in contact information
      - a) Phone number and/or
      - b) Email address
    4. Expected arrival time
    5. Special equipment or PPE needed
    6. Exceptional hazards or safety risks
  - C. The procedure for checking in at an incident
  - D. The reason for a search team mission briefing (search subject and area data)
  - E. The reason for a search team mission debriefing (search operations planning data)
  - F. The procedures for departing from an incident
  - G. How a search team member is to deal with the media, including limits on information that may be provided:
    1. Personal SAR field experience
    2. SAR operations
  - H. How he or she is to interact with the following SAR specialties and/or personnel:
    1. Dog teams
    2. Mounted teams
    3. Trackers
    4. EMS personnel
    5. Listening posts
    6. Infrared detectors
    7. Aircraft
    8. Rope rescue teams
  - I. Insurance coverage
    1. What insurance is provided for volunteer searchers in Maine

2. How this insurance is managed in Maine
  3. Who to contact if he or she is injured
  4. Who should be informed to make a claim
- J. The reasons for emphasizing safe driving practices enroute to, and returning from, a SAR operation
- II. Aircraft Operations
- A. A Search Team Member shall list the safety rules for approaching, leaving, loading, and riding in helicopters.
  - B. A Search Team Member shall describe the procedures used to safely assist with helicopter hoist operations.
  - C. A Search Team Member shall describe the procedures used to safely assist with helicopter short haul operations.
- III. Legal Aspects of Search Operations
- A. A Search Team Member shall describe the basic legal aspects of the following, as they apply to a search team member:
    1. Rendering medical assistance
    2. Confidentiality of medical information
    3. Crime scene preservation
    4. Deceased victim
    5. Confidentiality of mission information
    6. Duty to respond
    7. Negligence
    8. Abandonment
  - B. A Search Team Member shall explain the legal limits for a search team member in regard to entering private property during a search.
  - C. A Search Team Member shall describe the basic legal aspects of the following, as they apply to the agency in charge of a search operation:
    1. Duty to Respond
    2. Finding a deceased subject
    3. Protecting a crime scene
- IV. Searcher Health and Safety
- A. A Search Team Member shall understand the importance of maintaining their health in the following ways:
    1. Prior physical fitness
    2. Nutrition
    3. Hydration
  - B. A Search Team Member shall demonstrate an understanding of how to maintain their health in the field in regard to the following:
    1. Nutrition, including the types of food and quantities needed
    2. Hydration
    3. Mitigating the effects of the environment
    4. Personal hygiene and sanitation

- C. A Search Team Member shall recognize the signs and symptoms, and demonstrate the preventive measures for:
  - 1. Cold-related problems
  - 2. Heat-related problems
  - 3. Dehydration
  - 4. Fatigue and exhaustion
  - 5. Blisters
  - 6. Sunburn
- D. A Search Team Member shall demonstrate an understanding of airborne and blood-borne human pathogens:
  - 1. Types of pathogens
  - 2. Methods of transmission
  - 3. Effectiveness of body substance isolation methods
- E. A Search Team Member shall demonstrate an understanding of how to mitigate the risks from airborne and blood-borne pathogens through the use of suitable PPE
- F. A Search Team Member shall demonstrate an understanding of the effects of stress, including awareness of the causes and symptoms of post-traumatic stress
- G. A Search Team Member shall demonstrate an understanding of how circumstances require special precautions, and what those precautions should be for the following:
  - 1. Weather
    - a) Current as well as potential conditions, including:
      - (1) Temperature changes
      - (2) Clouds
      - (3) Wind
    - b) Local effects due to terrain and surrounding vegetation
    - c) Severe weather, including:
      - (1) NWS warnings
      - (2) Storm hazards
        - (a) Lightning
        - (b) Sleet
        - (c) Hail
        - (d) Snow
        - (e) Torrential rain
        - (f) Strong winds
  - 2. Environmental hazards in the normal area of operations
    - a) Terrain
    - b) Plants
    - c) Wildlife and domestic animals
    - d) Day vs. night
    - e) Water hazards
      - (1) Still and running water
      - (2) Low head dams

- (3) Strainers
      - (4) Ice
    - f) Safety and rescue methods for water hazards
      - (1) Wading safety
      - (2) Team wading
      - (3) Pole wading
      - (4) Partner pairings around the water
      - (5) Defensive swimming
      - (6) Rescue - reach/throw
      - (7) Ice self-rescue and partner rescue
  - H. A Search Team Member shall demonstrate an understanding of situational awareness and how it affects search operations:
    - 1. Risks above
    - 2. Risks below
    - 3. Risks around
    - 4. Risks from subject, especially from bodily fluids
- V. Basic Survival
- A. To demonstrate knowledge of the principles of basic survival, a Search Team Member must be able to:
    - 1. List at least three methods for avoiding becoming lost.
    - 2. Explain the survival situation plan (STOP): Stay, Think, Observe, and Plan.
    - 3. Define "Positive Mental Attitude" and explain its effect on survival.
    - 4. List the basic necessities for survival, and prioritize them for a given situation.
    - 5. Differentiate between the requirements for short term survival vs. long term survival.
    - 6. Describe at least two methods for purifying water in the field.
    - 7. List the basic considerations for building an effective emergency shelter.
  - B. To demonstrate knowledge of the techniques required to survive in the field, a Search Team Member shall perform the following tasks:
    - 1. Using the contents of a ready pack, with available natural materials, build a functional emergency shelter. Explain how the shelter fulfills the requirements for survival.
    - 2. Using the contents of a ready pack, with available natural materials, build a fire in field conditions that will burn thumb-sized pieces of wood.
    - 3. Describe at least two methods for improvising signals to attract attention, and explain the advantages and disadvantages of each.
    - 4. A Search Team Member shall have, and shall know how to use, survival equipment determined by MASAR to be necessary to safely participate in search operations in the normal area of operations.
  - C. A Search Team Member shall demonstrate an understanding of the use of the contents of a 24 hour ready pack. (The recommended contents are listed in Appendix D of MASAR's Search Team Member certification standard).

## VI. SAR Clothing

- A. A Search Team Member must understand the concept of clothing as a system, and how it protects them from the effects of the environment in the field:
  - 1. The five ways by which the human body loses heat
  - 2. The effects of heat loss and their importance
  - 3. How to prevent heat loss.
  - 4. The reasons for wearing clothing in layers
  - 5. The functions of each layer
  - 6. The advantages and disadvantages of materials commonly used in each outdoor clothing layer
  - 7. The factors to be considered when choosing socks and footwear.
- B. A Search Team Member shall have, and shall know how to use, the Personal Protective Equipment (PPE) determined by MASAR to be necessary to safely participate in search operations in the normal area of operations, including:
  - 1. Clothing, including outerwear and footwear, suited to the mission and the expected environment.
  - 2. Personal field equipment
- C. A Search Team Member shall have an appropriate hands-free method of carrying personal and team equipment while in the field.
- D. A Search Team Member shall know the reasons for carrying, and explain or demonstrate the use of, all field equipment required by MASAR.
- E. A Search Team Member shall demonstrate an understanding of mission-specific packing for the normal area of operations.

## VII. Communications

- A. A Search Team Member shall demonstrate:
  - 1. The ability to communicate information clearly, accurately, and effectively.
  - 2. An understanding of the ICS communication doctrine.
  - 3. An understanding of the radio protocols in effect during search operations.
  - 4. The ability to correctly operate a hand-held radio.
  - 5. The ability to transmit and receive coordinates for a geographical location.

## VIII. Land Navigation

- A. A Search Team Member shall be able to list at least three types of maps used in SAR and explain the differences between them.
- B. A Search Team Member shall demonstrate the ability to identify, and describe the significance of, common map symbols.
- C. A Search Team Member shall demonstrate the ability to identify, describe the significance of, and explain how to use the information found in a map's legend.

- D. A Search Team Member shall be able to identify, and explain the significance and use of, the following:
  - 1. Contour lines and spacing
  - 2. True north
  - 3. Magnetic north
  - 4. Grid north
  - 5. Declination
- E. A Search Team Member shall demonstrate the ability to orient a map by:
  - 1. Terrain
  - 2. Compass
- F. A Search Team Member shall demonstrate the ability to determine the distance between two points on a map.
- G. A Search Team Member shall demonstrate the ability to determine the direction between two points on a map.
- H. A Search Team Member shall be able to explain how both natural and artificial phenomena can affect the accuracy of a compass.
- I. A Search Team Member shall know at least three parts of the compass
- J. A Search Team Member shall demonstrate the ability to use a compass to do the following:
  - 1. Obtain a compass bearing from a map and follow it in the field.
  - 2. Take a bearing in the field and transfer it to a map.
  - 3. Plot a course on a map.
  - 4. Estimate distance traveled in the field.
- K. A Search Team Member shall demonstrate the ability to do the following:
  - 1. Determine the elevation for a specified location on a map.
  - 2. Obtain a back azimuth for a course or bearing.
- L. A Search Team Member shall compare the following location defining systems, explain their advantages and disadvantages, and use each method to determine the coordinates for a given point on a map.
  - 1. UTM - (Universal Transverse Mercator)
  - 2. Latitude and Longitude
  - 3. Map feature reference
- M. A Search Team Member shall explain how the US National Grid differs from the UTM system
- N. A Search Team Member shall demonstrate the ability to use each of the systems in paragraph L above to do the following:
  - 1. From a set of coordinates, locate a given point on a map.
  - 2. Determine the coordinates of a location on a map and communicate that location to another person
- O. A Search Team Member shall demonstrate the ability to navigate, during daylight hours, a course with a minimum of three (3) legs, using map and compass alone.
  - 1. Each course leg shall be 0.1 - 0.25 mile long.
  - 2. The ends of two of the legs shall be provided, one in UTM coordinates and the other in Lat/Long coordinates.

3. A Search Team Member shall complete the course within a specified time limit, which shall be set by the evaluator.
- P. A Search Team Member shall demonstrate the ability to navigate, at night, a course with a minimum of three (3) legs, using map and compass alone.
1. Each course leg shall be 0.1 - 0.25 mile long.
  2. The ends of two of the legs shall be provided, one in UTM coordinates and the other in Lat/Long coordinates.
  3. A Search Team Member shall complete the course within a specified time limit, which shall be set by the evaluator.
- Q. A Search Team Member shall demonstrate an understanding of the use and value of GPS receivers in ground search by doing the following:
1. Explain the basic function of a GPS receiver.
  2. Explain, in simple terms, how a GPS receiver determines a location.
  3. Explain how the user's location and movements can be documented by a GPS receiver.
  4. Explain the shortcomings of GPS navigation, including signal errors and signal degradation, and the risks involved when relying on GPS receivers for navigation.
  5. Compare navigating by GPS with navigating by map and compass, explaining the advantages and disadvantages of each method.
  6. Explain the significance of synchronizing the GPS datum with that of the map used for a search mission.
- R. A Search Team Member shall demonstrate the ability to do the following with a GPS/GNSS receiver:
1. Turn unit on and off
  2. Check battery charge
  3. Change batteries
  4. Set map datum
  5. Set units for distance
  6. Set data type for locations, e.g. Lat/Long, UTM, etc.
  7. Set location coordinate readout units
  8. Prepare unit to collect navigational data:
  9. Clear track log
  10. Turn on track log
  11. Turn off track log
  12. Determine current location
- S. A Search Team Member shall demonstrate the ability, in the field, to:
1. Recognize when the GPS receiver is not operating
  2. Recognize that satellite coverage is inadequate for recording usable data
  3. Determine the current location
  4. Obtain location information from a GPS/GNSS receiver and transfer it to a map.

IX. Introduction to Search and Rescue

- A. To demonstrate an understanding of the concepts involved in Search and Rescue, a Search Team Member shall do the following:
  - 1. Define the following terms, as used in SAR operations:
    - a) Search
    - b) Rescue
    - c) Recovery
    - d) (LAST) Locate, Access, Stabilize, Transport
  - 2. Explain the importance of the following components of SAR operations:
    - a) Preplanning
    - b) Notification
    - c) Planning/Strategy
    - d) Tactics/Operations
    - e) Suspension
    - f) Critique
- B. Search Specific Knowledge and Skills
  - 1. A Land Search Team Member shall define and explain the following basic principles affecting search operations:
    - a) Search is an emergency
      - (1) Search urgency depends on a variety of factors
      - (2) The results of completing a search urgency form determines the urgency of a search operation
    - b) Searching for clues, not the subject
    - c) Clue consciousness or awareness
    - d) Grid searches vs. hasty searches
    - e) Lost person behavior, including:
      - (1) General types of lost persons
      - (2) Factors affecting lost person behavior
      - (3) The application of statistical studies of lost person behavior
  - 2. A Land Search Team Member shall be able to explain the function and importance of the lost person questionnaire
- C. To demonstrate an understanding of where the responsibilities for Search and Rescue lie in the State of Maine, a Search Team Member shall:
  - 1. List the four main provisions of Section 1, Title 12 MRSA, section 10105, subsection 4 (the Maine SAR statute).
  - 2. List the major responsibilities for search and rescue in Maine under the Maine SAR Plan for the following agencies and organizations:
    - a) Local SAR Authorities
    - b) Warden Service
    - c) Marine Patrol
    - d) U.S. Coast Guard
    - e) State Park Rangers
    - f) Federal Park Authorities
    - g) Civilian SAR units



- X. Search Techniques and Tactics
  - A. A Search Team Member shall define the following search terms (as used in the State of Maine):
    - 1. Search area
    - 2. Base line
    - 3. Guide line
    - 4. End line
    - 5. Grid line
    - 6. Flagger
    - 7. Guide person
  - B. A Search Team Member shall be able to define the following terms, and explain their significance in a search operation:
    - 1. Point Last Seen (PLS)
    - 2. Last Known Point (LKP)
    - 3. Initial Planning Point (IPP)
    - 4. Search segment or area
    - 5. Probability of Area (POA)
    - 6. Probability of Detection (POD)
    - 7. Probability of Success (POS)
    - 8. Coverage
  - C. A Search Team Member shall be able to explain the factors that affect POD estimation at the search team level, including the following:
    - 1. Speed of the search team
    - 2. Spacing between searchers
    - 3. Terrain in the search area
    - 4. Vegetation and ground cover in the search area
    - 5. Weather
    - 6. Time of day
    - 7. Searcher condition
    - 8. Search subject condition
  - D. A Search Team Member shall be able to define the functions of these search team positions:
    - 1. Search team leader
    - 2. Search team member
    - 3. Navigator
    - 4. Radio operator
  - E. A Search Team Member shall be able to explain the differences between Passive and Active search tactics, their advantages and disadvantages, and reasons for their use.
  - F. A Search Team Member shall be able to list, describe, and explain when to employ the following passive search tactics:
    - 1. Investigation
    - 2. Attraction
    - 3. Confinement/containment
    - 4. Track traps

- G. A Search Team Member shall be able to describe the following search tactics and list their advantages and disadvantages:
    - 1. Hasty Search (Type I)
    - 2. Efficient Search (Type II)
    - 3. Thorough Search (Type III)
  - H. A Search Team Member shall demonstrate an understanding of how tracking can be used in a search operation, including the following aspects:
    - a) Explain the difference between a track and a sign
    - b) Explain the difference between sign-cutting and tracking
    - c) Describe how to protect a track or sign
    - d) Describe how to protect an area for trackers
  - I. A Search Team Member shall demonstrate an understanding of how search dog teams can be used in a search operation, including the following:
    - 1. How to preserve an area for dog teams
    - 2. How to preserve and protect a scent article to be used by a dog team
  - J. A Search Team Member shall explain the advantages and disadvantages of searching at night.
  - K. A Search Team Member shall demonstrate the ability to perform the three preceding search techniques. The Search Team Member shall be able to explain how the following effect these techniques:
    - 1. Day vs. night
    - 2. Terrain in the search area
    - 3. Seasons of the year
    - 4. Hazardous areas
- XI. Clue Awareness and Scene Preservation
- A. A Search Team Member shall be able to explain the concept of searching for clues, not just subjects.
  - B. A Search Team Member shall be able to list the types of clues most likely to be observed by ground searchers, the probable locations of each, and methods for preserving them.
  - C. A Search Team Member shall demonstrate the ability to observe and evaluate clues.
  - D. A Search Team Member shall understand the importance of handling clues as potential evidence of a crime.
  - E. A Search Team Member shall describe what to do after finding:
    - 1. A clue
    - 2. The search subject alive
    - 3. The search subject deceased
    - 4. A possible crime scene
  - F. A Search Team Member shall explain the application of the legal requirements for preservation of crime/fatality and aircraft scenes.
  - G. A Search Team Member shall describe measures that may be taken to protect a scene from disturbance.

## XII. Rescue Equipment

- A. A Search Team Member shall describe the proper handling techniques for the following equipment:
  - 1. Rescue ropes
  - 2. Webbing and harnesses
  - 3. Rescue hardware

## XIII. Litter Handling and Patient Evacuation

- A. A Search Team Member shall describe at least two types of stretchers or litters.
- B. A Search Team Member shall describe and demonstrate the following procedures for use of a litter:
  - 1. Lifting and loading a patient.
  - 2. Lifting, lowering, and carrying techniques, including passing litter over an obstruction.
  - 3. Litter crew procedures and commands, including proper litter bearer rotation.