



Loveland Fire Rescue Authority
410 East 5th Street
Loveland, Colorado 80537
(970) 962-2471 Fax (970) 962-2922 TDD (970) 663-5144
www.cityofloveland.org

BOAT BASED DIVE OPERATIONS (1.1)

This heading includes information about the following:

Developed by Lieutenant Shawn Williams

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TASK SKILL DESCRIPTION AND DETAIL

This heading includes information about the following:

- The task:
 - ✓ Provide dive operations when the object of the search is outside the effective reach of a shore-based search pattern. This operation will only be performed with a qualified last scene point. If no last scene point is available the boat based dive operation will not be attempted.
- How to complete the task
 - ✓ The boat will be deployed with a minimum of four personnel: two divers, one line tender, and a boat operator. The boat operator maybe utilized as a second dive tender but an additional communication headset will need to be removed from Dive Rescue 2. The boat shall approach the incident from the down wind direction if at all possible, this will allow for proper anchoring. When approaching the last scene point the boat shall slow down to an acceptable speed in which not to bypass the incident. A buoy marker shall be placed at the last seen point for a permanent marker. The dive platform will then be deployed to allow the divers to have a convenient entry and exit point.
 - ✓ It is critical during boat based dive operations the boat be anchored securely. This creates a stationary point from which the line tender controls the diver. The main anchor shall be placed into the water from the bow of the boat a distance away from the marker equal to the anticipated depth. For example, if the anticipated depth is twenty feet. The main anchor shall be deployed twenty feet away from the last seen point marker buoy. This will allow for the dive object to drift from the surface to the bottom and be possibly be affected by currents. The main anchor is then secured to the bow of the boat. The boat then shall be allowed to equalize with the current and wind conditions. The secondary anchor shall then deployed from the stern of the boat. The anchor shall be allowed to settle to the bottom then the line shall be tightened and secured to the stern of the boat. (Please refer to Figure 1.) Once all anchors have been deployed and secured, the dive flag with buoy shall be positioned to warn others of divers in the water. The dive flag should be placed in the direction of increased traffic but placed to not interfere with dive operations at depth.
 - ✓ The primary diver will enter the water and locate the main anchor line. The diver will follow the main anchor line down to the anchor attachment point and connect the line into the carabiner. This allows a pivot point below the boat to accurately cover the search pattern. The diver will make contact with the tender and relay the depth of the operation and visibility range to gauge search pattern length. The diver will then begin a circular search pattern to complete 360° coverage. (Please refer to Figure 2.) The tender will control the search pattern

from the surface while watching the diver's exhalation bubbles to determine the location. (Please refer to Figure 3 for Tender/Diver Line Signals.) When the search pattern requires a change of direction the tender will increase the pattern radius equal to the range of visibility. If the visibility is four feet, the tender will increase the search radius by four feet. This process will continue until the operation is completed or the sixty minute time frame is reached.

- **Emergency procedures**
 - ✓ The second diver, 90% diver, is to be dressed so minimal actions necessary to deploy. The normal actions taken would be to don and tighten mask, all other equipment is to be in place. The 90% diver is the first initial safety for the operation. If the primary diver experiences a problem or becomes distressed the 90 % diver is to be deployed. A backup team shall be immediately requested to from staging to assist with the rescue operation.
- **Counter-indications for completing boat based dives.**
 - ✓ A dive should be called off if the party involved has been underwater for more than sixty minutes. When the sixty minute mark is achieved the incident will then transition from a rescue operation to a recovery operation. When this occurs all divers will be removed from the water and a new briefing will be completed.

TASK SKILL INSTRUCTIONAL REQUIREMENTS AND IMPLEMENTATION

- **Associated PPE required for instructing the task**
 - **Primary/Secondary Diver PPE**
 - Dry suit with gloves, ankle weights, buoyancy compensator with AGA mask (BC), personal weight harness with carabiner, quick release connection (removed during ice operations), secondary knife, and swim fins.
 - **Tender PPE**
 - PFD and a talk about radio to possibly communicate with on shore resources.
- **Evaluation criteria for observing knowledge, skills and abilities.**
 - Basic knowledge of boat and dive tender operations
- **Safety criteria when performing this task**
 - Site control in areas surrounding operation.
 - General water safety during boat operations.
 - Monitor the diver for dive related illness/stress.
 - Situation/Hazard Evaluation.
 - Proper PPE use, equipment in good working condition, and potential fire hazards.

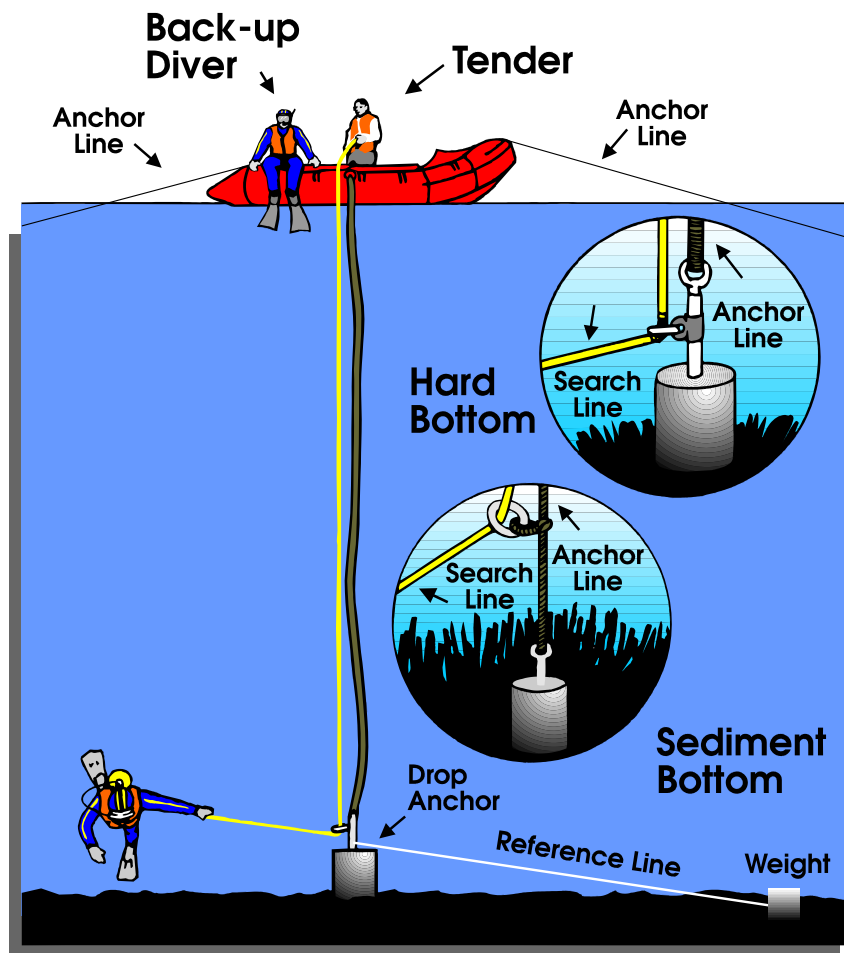


Figure 1

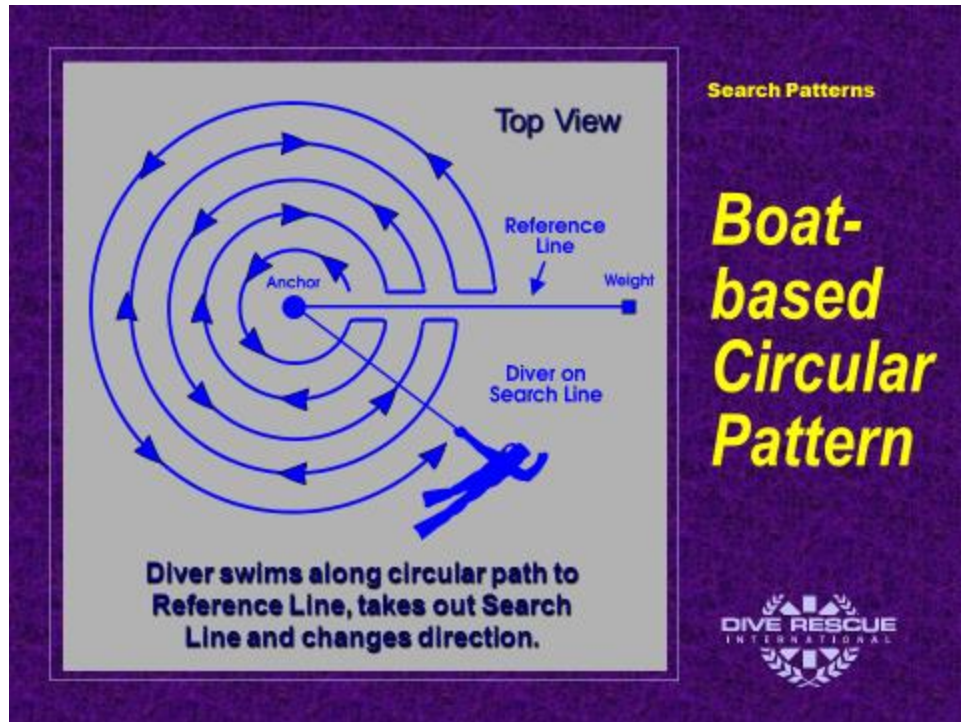


Figure 2

INTERNATIONAL PUBLIC SAFETY DIVER LINE SIGNALS

TENDER TO DIVER

- 1 pull Okay? Okay.
- 2 pulls Stop, take out slack, reverse direction
- 3 pulls Come to the surface
- 4 pulls STOP, DON'T MOVE

DIVER TO TENDER

- 1 pull Okay? Okay.
- 2 pulls Advance line, give slack
- 3 pulls Object found
- 4 pulls NEED ASSISTANCE

Figure 3

REFERENCE INFORMATION

- *Dive Rescue International- Dive Rescue Specialist: Operational Training for Public Safety Divers-* Steven Orusa 2007 Edition