

U.S. Department of  
Homeland Security

United States  
Coast Guard



# Boat Crew Qualification Handbook,

## Volume 3 - ATON

*“Train, Maintain, Operate”*



BQH 16115.3

February 2020



BQH 16115.3

FEB 4, 2020

BOAT CREW QUALIFICATION HANDBOOK, VOLUME 3 - ATON – BQH 16115.3

Subj: BOAT CREW QUALIFICATION HANDBOOK, VOLUME 3 - ATON

1. PURPOSE. This Handbook provides standardized performance objectives and guidance for the purpose of training and certifying personnel as crewmembers on Coast Guard boats.
2. DIRECTIVES AFFECTED. U.S. Coast Guard Boat Operations and Training (BOAT) Manual, Volume I, COMDTINST M16114.32E, and U.S. Coast Guard Boat Operations and Training (BOAT) Manual, Volume II, COMDTINST M16114.33D, have been reorganized.
3. DISCUSSION. This Handbook provides guidance on how to engage in safe and effective boat operations.
4. MAJOR CHANGES. No major changes.
5. DISCLAIMER. This guidance is not a substitute for applicable legal requirements, nor is it itself a rule. It is intended to provide operational guidance for Coast Guard personnel and is not intended to nor does it impose legally-binding requirements on any party outside the Coast Guard.
6. IMPACT ASSESSMENT. No impact assessment warranted.
7. ENVIRONMENTAL ASPECT AND IMPACT CONSIDERATIONS.
  - a. The development of this Handbook and the general guidance contained within it have been thoroughly reviewed by the originating office in conjunction with the Office of Environmental Management, and are categorically excluded (CE) under current USCG CE #33 from further environmental analysis, in accordance with Section 2.B.2. and Figure 2-1 of the National Environmental Policy Act Implementing Procedures and Policy for Considering Environmental Impacts, COMDTINST M16475.1 (series). Because this Handbook contains guidance documents that implement, without substantive change, the applicable Commandant Instruction and other guidance documents, Coast Guard categorical exclusion #33 is appropriate.
  - b. This Handbook will not have any of the following: significant cumulative impacts on the human environment; substantial controversy or substantial change to existing environmental conditions; or inconsistencies with any Federal, State, or local laws or administrative

determinations relating to the environment. All future specific actions resulting from the general guidance in this Handbook shall be individually evaluated for compliance with the National Environmental Policy Act (NEPA), Department of Homeland Security (DHS) and Coast Guard NEPA policy, and compliance with all other environmental mandates.

7. DISTRIBUTION. No paper distribution will be made of this Handbook. An electronic version will be located on the Office of Boat Forces (CG-731) Portal site:  
<https://cg.portal.uscg.mil/units/cg731/SitePages/Manuals.aspx>.
8. FORMS/ REPORTS. None
9. REQUESTS FOR CHANGES. To recommend edits and changes to this Handbook, please submit a formal request at the following link:  
<https://cg.portal.uscg.mil/communities/bfco/doctrine/SitePages/Home.aspx>.

J. BRIAN RUSH  
U.S. Coast Guard  
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# PART 1

## Introduction to CG Boat Crew Qualification System

**In this Part** This Part contains the following Chapters:

Chapter	Title	See Page
1	<a href="#">How to Use this Handbook</a>	1-2
2	<a href="#">Boat Crew Qualifications</a>	1-3
3	<a href="#">Qualification System Structure</a>	1-4
4	<a href="#">Task Designations</a>	1-5
5	<a href="#">Overview of Qualification Tasks</a>	1-6
6	<a href="#">Instructor Guidance</a>	1-9
7	<a href="#">Trainee Guidance</a>	1-12

**Instructors** Instructors have several key responsibilities. They must:

- (01) Be proficient with all installed boat equipment and operational procedures. All instructors must ensure that their boat crew position certifications remain current.
- (02) Instruct in a way which maintains a high level of professionalism yet encourages each trainee toward challenges that the instructor understands to be within the trainee’s grasp.
- (03) Completely execute the training qualification process described in this Part.



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## CHAPTER 1

### How to Use this Handbook

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**References for this Chapter**

Commandant directives and other official reference documents are listed here. References will be provided at the beginning of each Chapter.

**Part Layout**

The first page of each *Part* includes an *In this Part*, which lists each Chapter title. In the left column of most pages are block titles, which provide descriptive words for the corresponding blocks of text to their right.

**Warnings, Cautions, and Notes**

The following definitions apply to “Warnings, Cautions, and Notes” found throughout the Handbook.

**Warning**

**WARNING**  Operating procedures or techniques that must be carefully followed to avoid personal injury or loss

**Caution**

**CAUTION!** Operating procedures or techniques that must be carefully followed to avoid equipment damage.

**Note**

**NOTE**  An operating procedure or technique that is essential to emphasize.



## CHAPTER 2

### Boat Crew Qualifications

**A.1.  
Qualification  
List**

The *qualification Parts* are:

Qualification	Part
ATON Boat Crew Member (ABCM) Qualification	PART 2
Boom/Crane Operator (BCO) Qualification	PART 3
Buoy Deck Supervisor (BDS) Qualification	PART 4
ATON Coxswain (ACOXN) Qualification Tasks	PART 5
<p><b>NOTE</b> <i>~</i></p> <div style="border: 1px solid black; padding: 5px; display: inline-block;">                     Tactical and Pursuit Lvl IV qualification programs are contained in U.S. Coast Guard Boat Operations and Training (BOAT) Manual, Volume III, COMDTINST M16114.42                 </div>	

**Table 1-1  
Boat Crew Qualification Parts**



## CHAPTER 3

### Qualification System Structure

#### A.1. Organization

Each *qualification part* is structured as follows:

Chapter	Title	Provides:
1	<i>Task Accomplishment Record</i>	The Instructor's task-level record of trainee's qualification progress. Contains <u>Instructor's initials</u> and <u>task completion date</u> signifying the trainee successfully performed the task in accordance with the prescribed standards.
2	<i>Qualification Tasks</i>  This Chapter is sub-divided into lettered <i>sections</i> representing training <i>divisions</i> . (e.g. Section B. Physical Fitness, First Aid and Survival.)	The instructor's criterion-level record of trainee's qualification progress. Contains:  (01) <u>Instructor's initials</u> and <u>completion date</u> . signifying the trainee successfully performed each criterion in accordance with the prescribed standards.  (02) <u>Comments</u> . Circumstances or conditions which may affect task completion (including if task was attempted/ completed under more arduous conditions than those required) and failure to complete any performance criterion.
3	<i>Trainee Study Guide</i>  This Chapter's sections match those found in Chapter 2.	Reading assignments and questions.  Chapter 3 is to be removed and retained by the trainee.

**Table 1-2**  
**Qualification Part Structure**

#### NOTE

Boat Crew Qualification Handbooks should be reproduced locally and provided to trainees.



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## CHAPTER 4

### Task Designations

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#### A.1. Task Designation Components

A task designation is comprised of three elements followed by the word “ANY” or “TYPE.” The three elements of a task designation are:

- (01) Qualification
- (02) Division Designation Number
- (03) Task Designation Number

Below are two examples:

#### A.2. Task Structure

A task designation is a combination of qualification, task sequence numbers and the word “ANY” or “TYPE.” Below are two examples:

BCM-01-01-ANY

BCM-07-05-TYPE

ANY: task can be accomplished on any boat, *provided the boat is capable of the task*. ANY tasks are considered transferable from boat to boat and, therefore, are to be completed only once.

TYPE: task must be done individually for each different boat type for which qualification is desired.

Task designation number. The task is a knowledge or skill objective to be performed.

Division designation number

Qualification (e.g. Boat Crew Member).

#### A.3. Task Completion Requirement

All tasks shall be completed unless specifically stated otherwise. When situations exist that preclude a member from completing a task, the task may be eligible for *deferment*, per *U.S. Coast Guard Boat Operations and Training (BOAT) Manual, Volume II*, COMDTINST M16114.33 (series).



## CHAPTER 5 Overview of Qualification Tasks

### A.1. Organization

Each task is organized into four components:

- (01) Reference(s)
- (02) Conditions
- (03) Standards
- (04) Performance Criteria

Locate the four components in the *sample task* shown below.

### A.2. Sample Task

<b>TASK ENG-01-33 TYPE</b>	<b>Identify the Breaker Panels</b>		
<b>Reference</b>	a. 45 FT Response Boat-Medium (RB-M) Operator's Handbook, COMDTINST M16114.41 (series)		
<b>Conditions</b>	Task should be performed at any time aboard any of the unit's standard boats without the use of reference or prompting.		
<b>Standards</b>	Update per new RB-M tasks.		
	<b>Performance Criteria</b>		<b>Completed (Initials)</b>
	Update per new RB-M tasks.		<u>IMU</u>
	Update per new RB-M tasks.		<u>IMU</u>
	Update per new RB-M tasks.		<u>IMU</u>
<b>Instructor</b>	<b>BM1 I. M. UNDERWAY</b>	<b>Date</b>	<b>10DEC13</b>
<b>Comments</b>	_____		
	_____		
	_____		




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**A.3. References** *References* are the information sources which describe how to do the task.

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**A.4. Conditions** *Conditions* are the environmental and physical circumstances under which the tasks must be performed. Any tools or special equipment needed for the completion of the task are listed here. The conditions listed with each task must be met. The following table describes task conditions and standards terms that are not contained in the stated references used in this Handbook:

Term	Definition	
Sea Conditions	<b>Calm</b>	Seas less than 4 FT
	<b>Moderate</b>	Seas 4 to 10 FT
	<b>Heavy</b>	Platform specific. See U.S. Coast Guard Boat Operations and Training (BOAT) Manual, Volume I, COMDTINST M16114.32 (series).
Wind Conditions	<b>Calm</b>	Less than 1 to 6 knots.
	<b>Moderate</b>	7 to 19 knots
	<b>Heavy</b>	20 knots and above.
<p>Note: During qualification, the minimum sea conditions are just that, minimums. The qualification period should include demonstration of skills during wind and sea conditions appropriate for the area. <i>The unit CO/OIC should consider maximum weather limitations in conjunction with Commandant policies to ensure trainees gradually build confidence and platform proficiency.</i> The trainee must practice in varied conditions within the above ranges and not just the minimums prior to certification.</p>		

**Table 1-3  
 Wind and Sea Conditions Definitions**

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**A.5. Standards** *Standards* describe how well a task must be performed in order to be acceptable. Standards will often refer to *task criteria* to put steps into logical order for learning. Successful task completion is a function of how well a trainee is able to complete the task without assistance. Generally, the task performance standards are as follows:

Type	Requirement
Parameter	A specific standard must be met, e.g. “recover a man overboard within X minutes.” X is the parameter.
Knowledge	Recite, from memory, the required information. <i>Instructors may wish to ask questions concerning particular steps for accomplishment in order to measure the trainee’s total comprehension of the subject matter.</i>
Skill	Perform tasks without prompting or assistance from the instructor. (Prompting should not be confused with cueing. A cue is a signal, such as a word or action, used to initiate another step in a procedure, etc. Example: when the instructor announces “Man Overboard,” that is a cue, not a prompt.)  Each task demonstration must follow the correct sequence with little or no hesitation between the steps for accomplishment.

**Table 1-4**  
**Task Performance Standards**

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**A.6. Criteria** *Criteria* are the specific learning items required for each task. Criteria work hand-in-hand with *Reading Assignments* to move the trainee from gaining knowledge (facts, concepts and principles) to demonstrating skills.

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## CHAPTER 6

### Instructor Guidance

**A.1. General Process**

Tasks are meant to be learned through constant practice under the instructor’s guidance and evaluation. The process normally proceeds as follows:

<b>Initial Preparation</b>
Provide Chapter 3 of the appropriate <i>qualification Part</i> (e.g. <i>Part 2, Boat Crew Member</i> ) to trainee
<b>Qualification Process:</b>
Assign the task
Assign reading
Confirm the completion of the reading assignment
Demonstrate the task
Walk-through the task
Monitor performance
Evaluate performance
Sign-off the task
Maintain records
<b>Certification Process:</b>
Schedule Boat Crew Examination Board (BCEB) comprehensive examination
Schedule Practical assessment.
BCEB: recommend certification

Table 1-5  
General Task Process

**A.2. Provide Chapter 3**

Remove *Chapter 3* from the appropriate Part and give it to the trainee to retain.

**A.3. Assign Task**

While *divisions* may at times be done concurrently, the tasks within each division should be accomplished in the order listed.

- (01) Tasks are based on the crew position and type of boat for which the trainee is being qualified. Where needed, *notes* specifying applicability may be found at the beginning of each task.
- (02) Tasks designated as TYPE are considered to be specific to each boat type. These must be completed individually for each desired boat type qualification.
- (03) Tasks designated as ANY are considered general in nature. Completion of these tasks on any boat type is sufficient for the qualification process and need not be repeated when qualification is desired on another boat type.



<b>A.4. Assign Reading</b>	Provide the trainee the reading assignments and study guide questions.
<b>A.5. Confirm Knowledge</b>	<p>Review study guide questions for completeness and accuracy. Clarify any misunderstandings the trainee might have about the material.</p> <p>Instructors should identify consistent problem areas for trainees, and forward recommendations for improvements via the chain of command.</p>
<b>A.6. Demonstrate Task</b>	Demonstrate the steps required to complete the task. During the demonstration, the instructor should narrate the procedures, including problem solving (also known as “thinking out loud”).
<b>A.7. Walk Through Task</b>	<p>Walking a trainee through a procedure can take several forms and sessions. Walk-throughs typically begin with the trainee observing the instructor, while describing to the instructor the instructor’s actions and any problem solving. Next, the trainee performs the procedure for the instructor, including describing any problem solving. There is no limit to the number of times the instructor performs the walk-through, however, trainee understanding must be ensured before continuing.</p> <p>Successive walk-throughs should be used to allow the trainee to master basic skills before attempting more complex skills.</p>
<b>A.8. Monitor Progress</b>	Qualification does not end the first time a task is successfully completed; it ends when successful task completion can be met consistently, during operations and training.
<b>A.9. Evaluate</b>	<p>Verify that the trainee’s performance meets the standard. This includes two parts:</p> <ul style="list-style-type: none"><li>(01) The trainee must perform the task to established standards and conditions.</li><li>(02) The trainee must perform the task with no assistance.</li></ul> <p>The trainee is expected to perform each task on a consistent basis in accordance with the established standards and conditions.</p>
<b>A.10. Sign-Off</b>	The instructor signs the task at the bottom of the page when he/she is confident that the trainee can perform the task consistently, while unsupervised.
<b>A.11. Records</b>	<p>Maintain records as follows:</p> <p><u>Paper documentation</u>: Transfer records to individual members following qualification entry in Abstract of Operations System (AOPS) / Training Management Tool (TMT). <i>It is the responsibility of the member to retain the original completed qualification tasks in his/her personal records.</i></p> <p><u>Electronic documentation</u>: Make AOPS/TMT entries as each task is completed and/or when all qualification tasks are complete.</p>

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**A.12. Changes to Qualification Requirement**

If qualification requirements change due to issuance of a new Handbook or change to a Handbook, then a qualified boat crewmember is grandfathered, unless specifically stated otherwise. A member may only be grandfathered if the member was previously qualified or had started the qualification process prior to the effective date of the new Handbook or change.

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**A.13. Comprehensive Examination and Practical Assessment**

Inform the unit CO/OIC when all qualification tasks are completed. When the trainee has completed all of the required tasks for the position and boat type, the qualification process is complete.

The instructor should inform the Boat Crew Examination Board and schedule the trainee for a comprehensive examination and practical assessment.

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**A.14. Recommend Certification**

When the Boat Crew Examination Board is satisfied with the trainee's performance and abilities, they may recommend to the unit CO/OIC that the trainee be certified.

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## CHAPTER 7

### Trainee Guidance

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#### A.1. Introduction

This guidance is written to you, the trainee. *What* you learn during qualification, as well as *how well* you learn, will impact your future, as well as those who follow you. Taking the time to thoroughly learn the qualification knowledge and skills will prove invaluable when you advance to the role of instructor.

If you have not read the material in Chapters 1 through 5 of this Part, do so.

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#### A.2. Qualification Learning Tips

The following tips will help you in your qualification process:

- (01) You will have many reading assignments. Always make sure that you are using up-to-date material. Commandant directives may be superseded by record message traffic.
  - (02) Always complete the written questions, and if an answer is found to be in error, correct it.
  - (03) If information must be recited from memory, practice reciting information out loud.
  - (04) Help improve training materials. Often trainees are in a position to spot inconsistencies in publications, procedures, etc. When this happens, work with your instructor to resolve any issues, and when needed, report recommendations up the chain of command.
-



# PART 2 ATON Boat Crew Member (ABCM) Qualification

**Introduction**

In addition to the Boat Crew Member qualification tasks, personnel assigned to Aids to Navigation Teams shall complete *Part 2*, ATON Boat Crew Member (ABCM) Qualification, prior to assuming ATON Boat Crew Member duties.

Members completing *Parts 2, 3, 4 and 5* shall certify in accordance with *U.S. Coast Guard Boat Operations and Training (BOAT) Manual, Volume II*, COMDTINST M16114.33 (series) and receive the applicable competency code.

**In this Chapter**

This Part contains the following chapters:

Chapter	Title	See Page
1	<a href="#">Task Accomplishment Record for ATON Boat Crew Member</a>	2-2
2	<a href="#">ATON Boat Crew Member Qualification Tasks</a>	2-3
3	<a href="#">ATON Boat Crew Member Trainee Study Guide</a>	2-20



## CHAPTER 1

### Task Accomplishment Record for ATON Boat Crew Member

**NOTE**

Instructors shall use a copy of this form (for each trainee) to record accomplishment of tasks. Following task completion, task shall be recorded in the e-Training system.

TRAINEE NAME: \_\_\_\_\_ RATE: \_\_\_\_\_

INSTRUCTOR NAME: \_\_\_\_\_ RATE: \_\_\_\_\_

POSITION/QUALIFICATION CODE TO BE TRAINED FOR: \_\_\_\_\_

**NOTE**

Instructors should line through those tasks not applicable to this qualification.

Task	Date Started	Date Completed	Instructor's Initials
ABCM-01-01 - ANY			
ABCM-01-02 - ANY			
ABCM-01-03 - ANY			
ABCM-01-04 - ANY			
ABCM-01-05 - ANY			
ABCM-01-06 - TYPE			
ABCM-01-07 - ANY			
ABCM-01-08 - ANY			
ABCM-01-09 - TYPE			
ABCM-01-10 - TYPE			
ABCM-01-11 - TYPE			
ABCM-01-12 - TYPE			
ABCM-01-13 - TYPE			
ABCM-01-14 - ANY			
ABCM-01-15 - TYPE			
ABCM-01-16 - TYPE			




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## CHAPTER 2

### ATON Boat Crew Member Qualification Tasks

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**Introduction**

The following are objectives of Division One:

**Demonstrate** knowledge of the factors that affect crew performance.

**In this Chapter**

This Chapter contains the following tasks:

Task Number	Task	See Page
ABCM-01-01-ANY	ATON Procedures	2-4
ABCM-01-02-ANY	Roles and Responsibilities of Buoy Deck Crew	2-5
ABCM-01-03-ANY	Safety Precaution Fundamentals	2-6
ABCM-01-04-ANY	Terminology Fundamentals	2-8
ABCM-01-05-ANY	Rigging Safety Precaution Fundamentals	2-9
ABCM-01-06-TYPE	ATON Deck Tool Fundamentals	2-11
ABCM-01-07-ANY	Cutting and Heating with Oxygen Acetylene	2-12
ABCM-01-08-ANY	Hand Signal Fundamentals	2-13
ABCM-01-09-TYPE	ATON Deck Limitations and Parameters	2-14
ABCM-01-10-TYPE	Use and Application of ATON Buoy Deck Equipment	2-14
ABCM-01-11-TYPE	ATON Deck Seamanship and Associated Hardware	2-15
ABCM-01-12-TYPE	Mooring Maintenance	2-16
ABCM-01-13-TYPE	Gripping Buoys and Sinkers	2-17
ABCM-01-14-ANY	Buoy Maintenance	2-18
ABCM-01-15-TYPE	Mooring Evolution	2-18
ABCM-01-16-TYPE	Towing a Buoy	2-19



**TASK ABCM-01-01-ANY: ATON Procedures**

**References**

- a. *Aids to Navigation Manual - Seamanship, COMDTINST M16500.21 (series)*
- b. *Aids to Navigation Manual - Technical, COMDTINST M16500.3 (series)*
- c. *Short Range Aids to Navigation Servicing Guide, COMDTINST M16500.19 (series)*

**Conditions** Trainee must accomplish task without prompting or use of a reference. Task must be accomplished onboard underway, in a manner not to endanger either the boat or its crew.

**Standards** Trainee must complete the task in accordance with the steps below.

**NOTE**

Completion of task does not lead to an ATON technician qualification code.

Performance Criteria	Completed (Initials)
1. Assemble and install a 155-mm lantern.	_____
2. Demonstrate ability to time a flasher insuring the proper flash characteristic.	_____
3. Charge and install solar batteries.	_____
4. Explain proper protective equipment that is worn while handling ATON batteries.	_____
5. Explain battery tracking procedures.	_____
6. Assemble and install solar panels.	_____
7. Conduct a blocking diode test and determine the condition.	_____
8. Take voltage readings before and after load testing a battery and determine the condition.	_____
9. Take megohmmeter readings on power cable and determine condition.	_____
10. Conduct a routine inspection and determine the condition of the lighting equipment.	_____
11. Explain/demonstrate procedures for conducting air tests on buoys.	_____
12. Troubleshoot and correct problems in lighting and power equipment.	_____

**Instructor** \_\_\_\_\_ **Date** \_\_\_\_\_

**Comments**  
 \_\_\_\_\_  
 \_\_\_\_\_



**TASK ABCM-01-02-ANY: Roles and Responsibilities of Buoy Deck Crew**

- References** a. *Aids to Navigation Manual - Seamanship, COMDTINST M16500.21 (series)*  
 b. *United States Coast Guard Regulations 1992, COMDTINST M5000.3 (series)*
- Conditions** Task will be performed onboard underway. Trainee must accomplish task without prompting or use of a reference.
- Standards** Trainee must complete the task in accordance with the steps below.

Performance Criteria	Completed (Initials)
1. Explain the roles and relationship of the ATON/ buoy deck crew: <ul style="list-style-type: none"> <li>a. ATON Boat Crew Member</li> <li>b. Boom/Crane Operator</li> <li>c. Buoy Deck Supervisor</li> <li>d. ATON Coxswain</li> </ul>	_____    
2. Explain the importance of the evolution pre-brief and the assignment of personnel.	_____ 
3. Observe a minimum of five ATON evolutions from a safe location.	_____ 

**Instructor** \_\_\_\_\_ **Date** \_\_\_\_\_

**Comments**  
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**TASK ABCM-01-03-ANY: Safety Precaution Fundamentals**

<b>References</b>	<ul style="list-style-type: none"> <li>a. <i>Aids to Navigation Manual - Seamanship, COMDTINST M16500.21(series)</i></li> <li>b. <i>Aids to Navigation Manual - Technical, COMDTINST M16500.3 (series)</i></li> <li>c. <i>Knights Modern Seamanship</i></li> <li>d. <i>Naval Ships Technical Manual</i></li> </ul>
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<b>Conditions</b>	Task will be performed ashore or underway. Trainee must accomplish task without prompting or use of a reference.
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<b>Standards</b>	Trainee must complete the task in accordance with the steps below.
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Performance Criteria	Completed (Initials)
1. Discuss the following safety equipment and describe when and how it is to be used: <ul style="list-style-type: none"> <li>a. Hard hats with proper chin straps to include proper color designations.</li> <li>b. Proper eye protection for specific situations.</li> <li>c. Proper types of personal flotation devices and their associated equipment.</li> <li>d. Proper use of safety belts and harnesses.</li> <li>e. Explain why knives are to be worn by all buoy deck personnel.</li> <li>f. Proper clothing and footwear during buoy deck evolutions to include clothing required for foul weather operations.</li> <li>g. Boat's eye wash stations.</li> <li>h. Situations when hearing protection is to be worn to include types of hearing protection.</li> <li>i. Situations and dangers that require gloves to be worn.</li> <li>j. Appropriate safety markings for the Buoy/ATON deck and associated equipment (e.g. trip hazards, lifting hooks, etc.).</li> </ul>	_____
2. State the minimum distance that personnel should remain clear of fairlead blocks, bitts, cleats, deck winches, and chocks.	_____
3. Explain why personnel should remain clear of a bight of line, wire, and chain.	_____
4. Explain why line and wire must be handled hand-over-hand.	_____
5. Explain the proper method for fairleading cross deck winches.	_____
6. Discuss why and how suspended hooks must be tended.	_____
7. Discuss the importance of minimizing noise during buoy deck operations.	_____
8. For each of the following, identify the associated hazards and what safety precautions apply: <ul style="list-style-type: none"> <li>a. Working near suspended or moving loads</li> <li>b. Cleaning buoys</li> <li>c. Painting buoys</li> <li>d. Handling/working near ATON batteries</li> <li>e. Working on/near buoys with sound signals</li> <li>f. Working with hand tools</li> <li>g. Working with electric tools and electricity</li> <li>h. Working with pneumatic tools and compressed air</li> <li>i. Entering/leaving the buoy deck</li> <li>j. Working in foul weather</li> </ul>	_____



Performance Criteria	Completed (Initials)
k. Working atop a buoy (servicing, hot packing) l. Working around open hatches and unguarded openings m. Hoisting loads from the water or over the stern n. Working with hazardous material in general o. Working on an icy or unusually slippery deck p. Working with pressure washing equipment q. Wearing jewelry during buoy deck evolutions r. Handling wire and chain s. Overloading of load handling equipment	
9. Identify and explain the danger zones associated with the following: a. Line handling b. Wire rope c. Running rigging d. Snatch blocks e. Hoisting and moving loads f. Pulling and faking chain g. Deck boxes and handrails	_____       
10. Identify and explain escape routes associated with the following: a. Line handling b. Wire rope c. Running rigging d. Snatch blocks e. Hoisting and moving loads f. Pulling and faking chain	_____       
11. Discuss how the following external forces affect buoy deck operations: a. Adverse weather b. Roll c. Boat control difficulties d. Pitch e. Fouled mooring f. List g. Current h. Wind	_____       

**Instructor** \_\_\_\_\_ **Date** \_\_\_\_\_

**Comments**  
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**TASK ABCM-01-04-ANY: Terminology Fundamentals**

<b>References</b>	<ul style="list-style-type: none"> <li>a. <i>Aids to Navigation Manual - Seamanship, COMDTINST M16500.21 (series)</i></li> <li>b. <i>Aids to Navigation Manual - Technical, COMDTINST M16500.3 (series)</i></li> <li>c. <i>Knights Modern Seamanship</i></li> <li>d. <i>Naval Ships Technical Manual</i></li> </ul>
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<b>Conditions</b>	Task will be performed ashore or underway. Trainee must accomplish task without prompting or use of a reference.
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<b>Standards</b>	Trainee must complete the task in accordance with the steps below.
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Performance Criteria	Completed (Initials)		
1. Define the following terms and explain how the terms pertain to the buoy deck evolutions:	_____		
<table border="0" style="width: 100%;"> <tr> <td style="vertical-align: top; width: 50%;"> <ul style="list-style-type: none"> <li>a. Avast</li> <li>b. Bale/bail</li> <li>c. Bight</li> <li>d. Bitts</li> <li>e. Bitter end</li> <li>f. Block</li> <li>g. Boat hook</li> <li>h. Boom/crane</li> <li>i. Bull chain</li> <li>j. Chain stopper</li> <li>k. Chain hook</li> <li>l. Check</li> <li>m. Chock (closed)</li> <li>n. Cross deck</li> <li>o. Cleat</li> <li>p. Deck load</li> <li>q. Dor-Mor<sup>®</sup> anchors</li> <li>r. Dunnage</li> <li>s. Ease</li> <li>t. Fender</li> <li>u. Grapnel hook</li> <li>v. Gripe Down Chains</li> <li>w. Hand-over-hand</li> <li>x. Head block</li> <li>y. Heave around</li> <li>z. Hold</li> <li>aa. Horse collar</li> </ul> </td> <td style="vertical-align: top; width: 50%;"> <ul style="list-style-type: none"> <li>bb. Hook</li> <li>cc. Hoist (whip)</li> <li>dd. Lead line</li> <li>ee. Lifeline</li> <li>ff. Line</li> <li>gg. Line-reeving device</li> <li>hh. Link</li> <li>ii. Live chain</li> <li>jj. Master link</li> <li>kk. Marker buoy</li> <li>ll. Pad-eye</li> <li>mm. Pelican Hook</li> <li>nn. Saddle</li> <li>oo. Safety chain</li> <li>pp. Slack</li> <li>qq. Sounding pole</li> <li>rr. Snatch block</li> <li>ss. Stand by</li> <li>tt. Steam Boat Jack/Tensor</li> <li>uu. Strain</li> <li>vv. Swivel</li> <li>ww. Tag line</li> <li>xx. Tension</li> <li>yy. Two-block</li> <li>zz. Winch</li> <li>aaa. Wire rope</li> <li>bbb. Wire drag</li> <li>ccc. Working load limit (WLL)</li> </ul> </td> </tr> </table>	<ul style="list-style-type: none"> <li>a. Avast</li> <li>b. Bale/bail</li> <li>c. Bight</li> <li>d. Bitts</li> <li>e. Bitter end</li> <li>f. Block</li> <li>g. Boat hook</li> <li>h. Boom/crane</li> <li>i. Bull chain</li> <li>j. Chain stopper</li> <li>k. Chain hook</li> <li>l. Check</li> <li>m. Chock (closed)</li> <li>n. Cross deck</li> <li>o. Cleat</li> <li>p. Deck load</li> <li>q. Dor-Mor<sup>®</sup> anchors</li> <li>r. Dunnage</li> <li>s. Ease</li> <li>t. Fender</li> <li>u. Grapnel hook</li> <li>v. Gripe Down Chains</li> <li>w. Hand-over-hand</li> <li>x. Head block</li> <li>y. Heave around</li> <li>z. Hold</li> <li>aa. Horse collar</li> </ul>	<ul style="list-style-type: none"> <li>bb. Hook</li> <li>cc. Hoist (whip)</li> <li>dd. Lead line</li> <li>ee. Lifeline</li> <li>ff. Line</li> <li>gg. Line-reeving device</li> <li>hh. Link</li> <li>ii. Live chain</li> <li>jj. Master link</li> <li>kk. Marker buoy</li> <li>ll. Pad-eye</li> <li>mm. Pelican Hook</li> <li>nn. Saddle</li> <li>oo. Safety chain</li> <li>pp. Slack</li> <li>qq. Sounding pole</li> <li>rr. Snatch block</li> <li>ss. Stand by</li> <li>tt. Steam Boat Jack/Tensor</li> <li>uu. Strain</li> <li>vv. Swivel</li> <li>ww. Tag line</li> <li>xx. Tension</li> <li>yy. Two-block</li> <li>zz. Winch</li> <li>aaa. Wire rope</li> <li>bbb. Wire drag</li> <li>ccc. Working load limit (WLL)</li> </ul>	
<ul style="list-style-type: none"> <li>a. Avast</li> <li>b. Bale/bail</li> <li>c. Bight</li> <li>d. Bitts</li> <li>e. Bitter end</li> <li>f. Block</li> <li>g. Boat hook</li> <li>h. Boom/crane</li> <li>i. Bull chain</li> <li>j. Chain stopper</li> <li>k. Chain hook</li> <li>l. Check</li> <li>m. Chock (closed)</li> <li>n. Cross deck</li> <li>o. Cleat</li> <li>p. Deck load</li> <li>q. Dor-Mor<sup>®</sup> anchors</li> <li>r. Dunnage</li> <li>s. Ease</li> <li>t. Fender</li> <li>u. Grapnel hook</li> <li>v. Gripe Down Chains</li> <li>w. Hand-over-hand</li> <li>x. Head block</li> <li>y. Heave around</li> <li>z. Hold</li> <li>aa. Horse collar</li> </ul>	<ul style="list-style-type: none"> <li>bb. Hook</li> <li>cc. Hoist (whip)</li> <li>dd. Lead line</li> <li>ee. Lifeline</li> <li>ff. Line</li> <li>gg. Line-reeving device</li> <li>hh. Link</li> <li>ii. Live chain</li> <li>jj. Master link</li> <li>kk. Marker buoy</li> <li>ll. Pad-eye</li> <li>mm. Pelican Hook</li> <li>nn. Saddle</li> <li>oo. Safety chain</li> <li>pp. Slack</li> <li>qq. Sounding pole</li> <li>rr. Snatch block</li> <li>ss. Stand by</li> <li>tt. Steam Boat Jack/Tensor</li> <li>uu. Strain</li> <li>vv. Swivel</li> <li>ww. Tag line</li> <li>xx. Tension</li> <li>yy. Two-block</li> <li>zz. Winch</li> <li>aaa. Wire rope</li> <li>bbb. Wire drag</li> <li>ccc. Working load limit (WLL)</li> </ul>		

**Instructor** \_\_\_\_\_ **Date** \_\_\_\_\_

**Comments**  
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**TASK ABCM-01-05-ANY: Rigging Safety Precaution Fundamentals**

**References**

- a. *Aids to Navigation Manual - Seamanship, COMDTINST M16500.21 (series)*
- b. *Aids to Navigation Manual - Technical, COMDTINST M16500.3 (series)*
- c. *Knights Modern Seamanship*

**Conditions**

Task will be performed ashore or underway. Trainee must accomplish task without prompting or use of a reference.

**Standards**

Trainee must complete the task in accordance with the steps below.

Performance Criteria	Completed (Initials)
1. Discuss safety precautions and rigging requirements in preparing to load/off-load buoy deck.	_____
2. Explain how and why routine visual inspections are conducted prior to use of the following equipment: <ul style="list-style-type: none"> <li>a. Bull chain               <ul style="list-style-type: none"> <li>(01) Slings</li> <li>(02) Wire rope</li> <li>(03) Chain</li> </ul> </li> <li>b. Synthetic fiber line and natural, fiber line</li> <li>c. Gripe chains</li> <li>d. Chain stopper</li> <li>e. Horse collar</li> <li>f. Modeer shackle</li> <li>g. Aircraft tie-downs</li> <li>h. Steamboat jacks/Tensors</li> <li>i. Snatch blocks</li> <li>j. Blocks, sheaves, pins</li> <li>k. Hooks (assorted types)</li> <li>l. Shackles (assorted types)</li> <li>m. Lines</li> <li>n. Padeyes</li> <li>o. Wire rope</li> <li>p. Pelican hook</li> <li>q. Tag lines &amp; snap hooks</li> <li>r. Slings: synthetic, chain, wire</li> </ul>	_____
3. Discuss what to do with load handling equipment that is found to be defective.	_____
4. Define WLL. Explain the importance of knowing the WLL for the following rigging equipment: <ul style="list-style-type: none"> <li>a. Wire rope</li> <li>b. Slings               <ul style="list-style-type: none"> <li>(01) Wire rope</li> <li>(02) Chain</li> <li>(03) Synthetic fiber</li> </ul> </li> <li>c. Steamboat jacks/Tensors</li> <li>d. Hooks</li> <li>e. Shackles</li> </ul>	_____



Part 2 - ATON Boat Crew Member (ABCM) Qualification  
 Chapter 2 – ATON Boat Crew Member Qualification Tasks

Performance Criteria	Completed (Initials)
f. Lines g. Padeyes h. Gripe chains i. Snatch blocks	
5. Discuss why it is necessary to know the weight of the load to be lifted.	_____
6. Discuss why the landing area must be clear before lifting the load.	_____
7. Explain the use of tag lines when moving a load.	_____
8. Explain how to properly attach slings to a load.	_____
9. Discuss the possible consequences of attempting to hoist a load with improperly rigged slings.	_____
10. Explain the proper care and stowage of rigging equipment.	_____
11. Explain the importance of properly reeving hooks into bales, padeyes and chains.	_____
12. Explain the importance of setting the chain in the stopper after every pull.	_____
13. Explain how to properly attach slings to a load: <ul style="list-style-type: none"> <li>a. Wire rope clip</li> <li>b. Chain (open link)</li> <li>c. Deck load</li> <li>d. End fitting</li> <li>e. Fairlead</li> <li>f. Bridle</li> <li>g. Pigtail</li> <li>h. Mechanical advantage</li> </ul>	_____
14. Explain the proper use of dunnage, saddles and headblocks.	_____
15. Identify the various sizes and classes of buoys serviced.	_____
16. Identify the size of chain serviced.	_____

**Instructor** \_\_\_\_\_ **Date** \_\_\_\_\_

**Comments** \_\_\_\_\_



**TASK ABCM-01-06-TYPE: ATON Deck Tool Fundamentals**

- References**  
 a. *Aids to Navigation Manual - Seamanship, COMDTINST M16500.21 (series)*  
 b. *Aids to Navigation Manual - Technical, COMDTINST M16500.3 (series)*
- Conditions**  
 Task may be performed ashore or underway onboard the unit's boats. Trainee must accomplish task without prompting or use of a reference.
- Standards**  
 Trainee must complete the task in accordance with the steps below.

Performance Criteria	Completed (Initials)	Boat Type
1. Identify and discuss how to use the following tools: a. Anvil (heat and beat) b. Bars (crow, wrecking, cheater) c. Chain hook d. Hacksaw e. Hammer (sledge, pin, split key 30 and 45°) f. Hatchet (axe) g. Pliers h. Buoy scraper i. Screwdrivers (assorted sizes and types) j. Tape measure k. Calipers l. Wrench m. Boat hook n. Knives o. Reeving line device (happy hooker) p. Marlinespike	_____ _____ _____	_____ _____ _____

**Instructor** \_\_\_\_\_ **Date** \_\_\_\_\_

**Comments**  
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**TASK ABCM-01-07-ANY: Cutting and Heating with Oxygen Acetylene**

<b>References</b>	<ul style="list-style-type: none"> <li>a. <i>Aids to Navigation Manual - Seamanship, COMDTINST M16500.21 (series)</i></li> <li>b. <i>Naval Engineering Manual, COMDTINST M9000.6 (series)</i></li> </ul>
<b>Conditions</b>	Task will be performed ashore or underway. Trainee must accomplish task without prompting or use of a reference.
<b>Standards</b>	Trainee must complete the task in accordance with the steps below. Task must be accomplished so as not to endanger either the boat or its crew.

Performance Criteria	Completed (Initials)
1. Identify and explain the following: <ul style="list-style-type: none"> <li>a. Oxygen</li> <li>b. Acetylene</li> <li>c. Torch handle</li> <li>d. Cutting tip</li> <li>e. Oxygen cylinder</li> <li>f. Acetylene cylinder</li> <li>g. Rosebud tip</li> <li>h. Check valves</li> <li>i. Cutting goggles/face shield</li> <li>j. Flashback arresters</li> <li>k. Tip cleaning tool</li> <li>l. Oxy/acetylene hoses</li> <li>m. Striker</li> <li>n. Regulators</li> </ul>	_____
2. Discuss the following safety related items: <ul style="list-style-type: none"> <li>a. Personal protective equipment (e.g. eye protection, hot work gloves, etc.).</li> <li>b. Inspection of hoses and torch.</li> <li>c. Operation of flashback arrestors and check valves.</li> <li>d. Inspection of regulators.</li> <li>e. Proper sequence for lighting torch.</li> <li>f. Dangers of excessive acetylene pressure.</li> <li>g. Presence of flammables in cutting/slag area.</li> <li>h. Protecting deck and adjacent compartments.</li> <li>i. Dangers of cutting on concrete sinkers.</li> <li>j. Incompatibility of petroleum products and oxygen.</li> <li>k. Security of cylinders in rack.</li> <li>l. Dangers of cutting on metal painted with lead, chromate or vinyl based paints.</li> <li>m. Dangers of heating or cutting around buoy battery pocket vent lines.</li> <li>n. Importance of keeping acetylene cylinders upright prior to and during use.</li> <li>o. Fire watch requirements during and after hot work.</li> <li>p. Hazards of conducting hot work on galvanized metals or stainless steel.</li> <li>q. Emergency shutdown procedures.</li> </ul>	_____



Performance Criteria	Completed (Initials)
3. Explain hazards of cutting or heating buoy hulls.	_____
4. Cut and heat with oxygen-acetylene outfit as follows: a. Select proper size cutting tip and/or rosebud tip. b. Select proper regulator settings. c. Cut various chain and shackles. d. Perform heat and beat installation.	_____
5. Secure torch as follows: a. Shut off secure torch. b. Secure gas bottles. c. Secure hoses and regulators. d. Stow all gear.	_____

**Instructor** \_\_\_\_\_ **Date** \_\_\_\_\_

**Comments**  
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**TASK ABCM-01-08-ANY: Hand Signal Fundamentals**

**Reference** \_\_\_\_\_  
 a. *Aids to Navigation Manual - Seamanship, COMDTINST M16500.21 (series)*

**Conditions** \_\_\_\_\_  
 Task will be performed ashore or underway. Trainee must accomplish task without prompting or use of a reference.

**Standards** \_\_\_\_\_  
 Trainee must complete the task in accordance with the steps below.

Performance Criteria	Completed (Initials)
1. Discuss/identify and demonstrate the following hand signals used during buoy deck evolutions: a. Boom/crane forward b. Boom/crane aft c. Raise/lower port whip d. Raise/lower starboard whip e. Raise/lower both whips f. Heave around on the cross deck g. Ease the cross deck h. Boom/crane aft/ease the cross deck i. Boom/crane forward/heave around on the cross deck	_____

**Instructor** \_\_\_\_\_ **Date** \_\_\_\_\_

**Comments**  
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**TASK ABCM-01-09-TYPE: ATON Deck Limitations and Parameters**

**References**

- a. *Specific Boat Type Operator’s Handbook, COMDTINST M16114 (series)*
- b. *Aids to Navigation Manual - Seamanship, COMDTINST M16500.21 (series)*
- c. *Aids to Navigation Manual - Technical, COMDTINST M16500.3 (series)*
- d. *Naval Engineering Manual, COMDTINST M9000.6 (series)*

**Conditions** Task should be performed at any time, onboard the unit’s boats. Trainee must accomplish task without prompting or use of a reference.

**Standards** Trainee must complete the task in accordance with the steps below.

Performance Criteria	Completed (Initials)	Boat Type
1. State the WLL of the boom/crane and cross decks.	_____	_____
2. State the maximum deck load (weight).	_____	_____
3. State the WLL of the bull chain pad-eyes.	_____	_____
4. State the WLL of the recessed tie-down pad-eyes.	_____	_____

**Instructor** \_\_\_\_\_ **Date** \_\_\_\_\_

**Comments** \_\_\_\_\_  
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**TASK ABCM-01-10-TYPE: Use and Application of ATON Buoy Deck Equipment**

**References**

- a. *Aids to Navigation Manual - Seamanship, COMDTINST M16500.21 (series)*
- b. *Aids to Navigation Manual - Technical, COMDTINST M16500.3 (series)*

**Conditions** Task will be performed ashore or underway. Trainee must accomplish task without prompting or use of a reference.

**Standards** Trainee must complete the task in accordance with the steps below. Task must be accomplished so as not to endanger either the boat or its crew.

Performance Criteria	Completed (Initials)	Boat Type
1. Rig and demonstrate the proper use of: a. Choker	_____	_____



Performance Criteria	Completed (Initials)	Boat Type
b. Synthetic slings	_____	_____
c. Hammer locks	_____	_____
d. Grapnel hook	_____	_____
e. Come-along	_____	_____
f. Aircraft tie-downs	_____	_____
g. Steam boat jacks/Tensors	_____	_____
h. Snatch blocks	_____	_____
i. Horse collar	_____	_____
j. Calipers	_____	_____
k. Sounding pole/lead line	_____	_____
l. Marker float	_____	_____

**Instructor** \_\_\_\_\_ **Date** \_\_\_\_\_

**Comments**  
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**TASK ABCM-01-11-TYPE: ATON Deck Seamanship and Associated Hardware**

**References**  
 a. *Aids to Navigation Manual - Seamanship, COMDTINST M16500.21 (series)*  
 b. *Aids to Navigation Manual - Technical, COMDTINST M16500.3 (series)*

**Conditions**  
 Task will be performed ashore or underway. Trainee must accomplish task without prompting or use of a reference.

**Standards**  
 Trainee must complete the task in accordance with the steps below. Task must be accomplished so as not to endanger either the boat or its crew.

Performance Criteria	Completed (Initials)	Boat Type
1. Identify the use and application of the following types/classes of shackles: a. Screw pin b. Heat and beat (rivet pin) c. Split key	_____ _____ _____	_____ _____ _____
2. Identify the types/classes of swivels.	_____ _____ _____	_____ _____ _____
3. Identify and determine the size of chain.	_____ _____ _____	_____ _____ _____
4. Identify different types of buoy bridles.	_____ _____ _____	_____ _____ _____



Part 2 - ATON Boat Crew Member (ABCM) Qualification  
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Performance Criteria	Completed (Initials)	Boat Type
5. Identify the different sizes of sinkers.	_____ _____ _____	_____ _____ _____
6. Identify the types/sizes of Dor-Mor anchors and their holding power.	_____ _____ _____	_____ _____ _____
7. Demonstrate the ability to perform the following: a. Split a split key shackle. b. Install a heat and beat. c. Mouse hooks to lifting bails (NO WEATHER HITCHES). d. Attach a swivel to a mooring bail. e. Attach chain to a sinker. f. Install a buoy bridle or mooring pendant (5x9).	_____ _____ _____	_____ _____ _____

**Instructor** \_\_\_\_\_ **Date** \_\_\_\_\_  
**Comments** \_\_\_\_\_  
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**TASK ABCM-01-12-TYPE: Mooring Maintenance**

**References** a. *Aids to Navigation Manual - Seamanship, COMDTINST M16500.21 (series)*  
 b. *Aids to Navigation Manual - Technical, COMDTINST M16500.3 (series)*

**Conditions** Task should be performed at any time, onboard the unit's boats. Trainee must accomplish task without prompting or use of a reference.

**Standards** Trainee must complete the task in accordance with the steps below. Task must be accomplished so as not to endanger either the boat or its crew.

Performance Criteria	Completed (Initials)	Boat Type
1. Conduct mooring maintenance as follows: a. Check personal equipment. b. Break the buoy. c. Hook up the buoy. d. Determine chain wear. e. Hook up a sinker. f. Inspect bridle and swivel. g. Secure equipment after use.	_____ _____ _____	_____ _____ _____

**Instructor** \_\_\_\_\_ **Date** \_\_\_\_\_  
**Comments** \_\_\_\_\_  
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**TASK ABCM-01-14-ANY: Buoy Maintenance**

<b>References</b>	a. <i>Aids to Navigation Manual- Seamanship, COMDTINST M16500.21 (series)</i> b. <i>Aids to Navigation Manual- Technical, COMDTINST M16500.3 (series)</i>
<b>Conditions</b>	Task should be performed at any time, onboard the unit's boats. Trainee must accomplish task without prompting or use of a reference.
<b>Standards</b>	Trainee must complete the task in accordance with the steps below. Task must be accomplished so as not to endanger either the boat or its crew.

Performance Criteria		Completed (Initials)
1. Perform buoy maintenance as follows: a. Check personal equipment. b. Lay out ATON equipment c. Scrape and paint a buoy. d. Inspect and replace retro as needed.	e. Inspect and replace vent valves as needed. f. Prepare buoy for recharge. g. Rig buoy for air testing. h. Secure equipment after use	_____ _____ _____

**Instructor** \_\_\_\_\_ **Date** \_\_\_\_\_

**Comments** \_\_\_\_\_

\_\_\_\_\_

**TASK ABCM-01-15-TYPE: Mooring Evolution**

<b>References</b>	a. <i>Aids to Navigation Manual - Seamanship, COMDTINST M16500.21 (series)</i> b. <i>Aids to Navigation Manual - Technical, COMDTINST M16500.3 (series)</i>
<b>Conditions</b>	Task will be performed onboard each boat type. Trainee must accomplish task without prompting or use of a reference.
<b>Standards</b>	Trainee must complete the task in accordance with the steps below. Task must be accomplished so as not to endanger either the boat or its crew.

Performance Criteria	Completed (Initials)	Boat Type
1. Participate in a mooring evolution as follows: a. Check personal equipment. b. Rig bull chain. c. Rig pelican hooks. d. Rig horse collar. e. Rig tagline. f. Rig Modeer shackle/nipper chain/shackle. g. Hookup for hoist. h. Seat chain in stopper	i. Fake chain on deck. j. Tie rotten stops. k. Strike horse collar. l. Trip pelican hook on the "Stand by" command. m. Trip chain stopper on the "Set the buoy" command. n. Secure equipment after use.	_____ _____ _____ _____ _____ _____ _____
2. Make proper reports to the ATON Coxswain on how the chain tends throughout the evolution.	_____ _____ _____	_____ _____ _____

Part 2 - ATON Boat Crew Member (ABCM) Qualification  
 Chapter 2 – ATON Boat Crew Member Qualification Tasks



**Instructor** \_\_\_\_\_ **Date** \_\_\_\_\_

**Comments** \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**TASK ABCM-01-16-TYPE: Towing a Buoy**

**References**  
 a. *Aids to Navigation Manual - Seamanship, COMDTINST M16500.21 (series)*  
 b. *Aids to Navigation Manual - Technical, COMDTINST M16500.3 (series)*

**Conditions**  
 Task should be performed at any time, onboard the unit's boats. Trainee must accomplish task without prompting or use of a reference.

**Standards**  
 Trainee must complete the task in accordance with the steps below. Task must be accomplished so as not to endanger either the boat or its crew.

Performance Criteria	Completed (Initials)	Boat Type
1. Rig the deck for towing a buoy.	_____ _____ _____	_____ _____ _____
2. Rig buoy for towing.	_____ _____ _____	_____ _____ _____
3. Set tow watch.	_____ _____ _____	_____ _____ _____

**Instructor** \_\_\_\_\_ **Date** \_\_\_\_\_

**Comments** \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_



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## CHAPTER 3

### ATON Boat Crew Member Trainee Study Guide

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**Introduction**

This Chapter should be removed and given to the trainee to keep. Its purpose is to provide guidance for the trainee's reading assignments and is not a part of the training record.

The trainee should read the appropriate reading assignment and answer the related questions prior to beginning training in each new task. The instructor should then discuss the trainee's answers to ensure understanding of the subject matter prior to beginning instruction for each new task.

**NOTE** 

If there is no reading assignment assigned for a specific task, then the task will not have a page number to reference.

**In this Chapter**

This Chapter contains the following section:

Section	Title	See Page
A	<a href="#">Reading Assignments</a>	2-21



## Section A. Reading Assignments

**Introduction**                      The reading assignment(s) should be read prior to beginning instruction of each task.

**In this Section**                      This Section contains the following reading assignments:

<b>Task Number</b>	<b>Task Title</b>	<b>Reading Assignment</b>	<b>See Page</b>
ABCM-01-01-ANY	ATON Procedures	<i>Aids to Navigation Manual - Seamanship</i> , COMDTINST M16500.21 (series) <i>Aids to Navigation Manual - Technical</i> , COMDTINST M16500.3 (series) <i>Short-Range Aids to Navigation Servicing Guide</i> , COMDTINST M16500.19 (series)	2-23
ABCM-01-02-ANY	Roles and Responsibilities of Buoy Deck Crew	<i>Aids to Navigation Manual - Seamanship</i> , COMDTINST M16500.21 (series) <i>United States Coast Guard Regulations 1992</i> , COMDTINST M5000.3 (series).	2-23
ABCM-01-03-ANY	Safety Precaution Fundamentals	<i>Aids to Navigation Manual - Seamanship</i> , COMDTINST M16500.21 (series) <i>Aids to Navigation Manual - Technical</i> , COMDTINST M16500.3 (series) <i>Knights Modern Seamanship</i> Naval Ships Technical Manual	2-23
ABCM-01-04-ANY	Terminology Fundamentals	<i>Aids to Navigation Manual - Seamanship</i> , COMDTINST M16500.21 (series) <i>Aids to Navigation Manual - Technical</i> , COMDTINST M16500.3 (series) <i>Knights Modern Seamanship</i> Naval Ships Technical Manual	2-24
ABCM-01-05-ANY	Rigging Safety Precaution Fundamentals	<i>Aids to Navigation Manual - Seamanship</i> , COMDTINST M16500.21 (series) <i>Aids to Navigation Manual - Technical</i> , COMDTINST M16500.3 (series) <i>Knights Modern Seamanship</i>	2-24
ABCM-01-06-TYPE	ATON Deck Tools Fundamentals	<i>Aids to Navigation Manual - Seamanship</i> , COMDTINST M16500.21 (series) <i>Aids to Navigation Manual - Technical</i> , COMDTINST M16500.3 (series)	2-24
ABCM-01-07-ANY	Cutting and Heating with Oxygen Acetylene	<i>Aids to Navigation Manual - Seamanship</i> , COMDTINST M16500.21 (series) <i>Naval Engineering Manual</i> , COMDTINST M9000.6 (series)	2-25
ABCM-01-08-ANY	Hand Signal Fundamentals	<i>Aids to Navigation Manual - Seamanship</i> , COMDTINST M16500.21 (series)	2-25



Part 3 - ATON Boat Crew Member (ABCM) Qualification

<b>Task Number</b>	<b>Task Title</b>	<b>Reading Assignment</b>	<b>See Page</b>
ABCM-01-09-TYPE	ATON Deck Limitations and Parameters	<i>49 Foot Buoy Utility Stern Loading Boat Operator's Handbook, COMDTINST M16114.22 (series)</i> <i>Aids to Navigation Manual - Seamanship, COMDTINST M16500.21 (series)</i> <i>Aids to Navigation Manual - Technical, COMDTINST M16500.3 (series)</i> <i>Naval Engineering Manual, COMDTINST M9000.6 (series)</i>	2-25
ABCM-01-10-TYPE	Use and Application of ATON Buoy Deck Equipment	<i>Aids to Navigation Manual - Seamanship, COMDTINST M16500.21 (series)</i> <i>Aids to Navigation Manual - Technical, COMDTINST M16500.3 (series)</i>	2-25
ABCM-01-11-TYPE	ATON Deck Seamanship and Associated Hardware	<i>Aids to Navigation Manual - Seamanship, COMDTINST M16500.21 (series)</i> <i>Aids to Navigation Manual - Technical, COMDTINST M16500.3 (series)</i>	2-26
ABCM-01-12-TYPE	Mooring Maintenance	<i>Aids to Navigation Manual - Seamanship, COMDTINST M16500.21 (series)</i> <i>Aids to Navigation Manual - Technical, COMDTINST M16500.3 (series)</i>	2-26
ABCM-01-13-TYPE	Gripping Buoys and Sinkers	<i>Aids to Navigation Manual - Seamanship, COMDTINST M16500.21 (series)</i> <i>Aids to Navigation Manual - Technical, COMDTINST M16500.3 (series)</i>	2-26
ABCM-01-14-ANY	Buoy Maintenance	<i>Aids to Navigation Manual - Seamanship, COMDTINST M16500.21 (series)</i> <i>Aids to Navigation Manual - Technical, COMDTINST M16500.3 (series)</i>	2-26
ABCM-01-15-TYPE	Mooring Evolution	<i>Aids to Navigation Manual - Seamanship, COMDTINST M16500.21 (series)</i> <i>Aids to Navigation Manual - Technical, COMDTINST M16500.3 (series)</i>	2-27
ABCM-01-16-TYPE	Towing a Buoy	<i>Aids to Navigation Manual - Seamanship, COMDTINST M16500.21 (series)</i> <i>Aids to Navigation Manual - Technical, COMDTINST M16500.3 (series)</i>	2-27



**TASK ABCM-01-01-ANY: ATON Procedures**

---

1. A \_\_\_\_\_ is used to check the buoy battery power cables prior to installation of a new battery.
  2. When looking at the schematic symbol for a diode, what denotes the direction of current flow?
  3. Why are air tests conducted on buoys, and state the pressure normally applied and the allowable pressure loss?
  4. The \_\_\_\_\_ and \_\_\_\_\_ charger should be checked for proper operation after a new battery is installed.
  5. Where are the critical gaskets and weather seals located when assembling a lantern?
  6. What are the correct disposal techniques for ATON batteries that are no longer serviceable?
  7. Name at least four external forces that affect buoy deck operations.
- 

**TASK ABCM-01-02-ANY: Roles and Responsibilities of Buoy Deck Crew**

---

1. Who is in charge of all evolutions when handling buoys or other aids to navigation?
  2. On some craft, the Boom/Crane Operator may also be the \_\_\_\_\_.
  3. The most important item to be accomplished during the evolution pre-brief is \_\_\_\_\_.
  4. State at least two ways the Buoy Deck Supervisor may communicate with the Boom/Crane Operator.
    - a.
    - b.
- 

**TASK ABCM-01-03-ANY: Safety Precaution Fundamentals**

---

1. List at least five pieces of safety equipment or apparel that must be worn on the buoy deck during buoy handling evolutions.
  2. Define a “bight” in reference to line, wire or chain and explain its apparent danger to personnel.
  3. Wire and line must be handled hand-over-hand to prevent \_\_\_\_\_.
  4. State the location of eye wash station on your assigned boat.
  5. From how many points (minimum) should loads on suspended hooks be tended?
  6. What is the minimum distance that crewmembers should remain clear of cross deck winch cables when under load?
  7. What jewelry can be worn by personnel on the buoy deck during buoy deck evolutions?
-



**TASK ABCM-01-04-ANY: Terminology Fundamentals**

---

1. Define the term WLL?
  2. What is dunnage?
  3. Define the term “live chain”.
  4. What is a sounding pole?
  5. What is the difference between an open chock and a closed chock?
  6. What is a head block?
  7. Define the term “lead line”.
  8. Explain how a snatch block might be used during the lifting or lowering of a buoy.
  9. What is a tag line normally used for?
  10. Explain the difference between a cleat and a padeye.
- 

**TASK ABCM-01-05-ANY: Rigging Safety Precaution Fundamentals**

---

1. What is a steamboat jack used for?
  2. Line should never be stored while \_\_\_\_ or \_\_\_\_.
  3. Explain the term 6 x 37 wire rope.
  4. The WLL of wire rope used in slings is based on a \_\_\_\_\_ to \_\_\_\_\_ safety factor.
  5. Blocks are classified by the number of \_\_\_\_\_.
  6. When should buoy handling equipment (boom/crane, hydraulic pumps and motors, cross deck winches) be inspected?
- 

**TASK ABCM-01-06-TYPE: ATON Deck Tools Fundamentals**

---

1. During buoy handling evolutions, where should tools be stowed that are not required for the evolution?
  2. What is the reeving line device (happy hooker) normally used for?
  3. What personnel safety equipment is required when using a buoy scraper?
  4. The angle of the teeth on a hacksaw blade should be \_\_\_\_\_ from the handle.
-



**TASK ABCM-01-07-ANY: Cutting and Heating with Oxygen Acetylene**

---

1. What color(s) are normally used to identify industrial oxygen containers?
  2. What safety equipment is essential when using an oxygen-acetylene torch?
  3. Where are the oxygen-acetylene bottles stowed?
  4. Explain the difference (function and description) between a rosebud tip and a cutting tip?
  5. Explain the fire watch requirements when conducting hot work?
  6. The greatest hazard when cutting or heating a buoy hull is \_\_\_\_\_.
  7. The danger of cutting or heating around buoy battery vents is the presence of \_\_\_\_\_.
- 

**TASK ABCM-01-08-ANY: Hand Signal Fundamentals**

---

1. The Buoy Deck Supervisor shall only give signals to the \_\_\_\_\_ or appointed \_\_\_\_\_.
  2. If the Buoy Deck Supervisor has his arms bent upward at the elbows and fists clenched, it is the signal for \_\_\_\_\_.
  3. What is the hand signal for the Buoy Deck Supervisor transfer?
  4. What is the hand signal for raising the boom/crane?
  5. If the Buoy Deck Supervisor has his hands clasped in front of his body, it is the signal for \_\_\_\_\_.
- 

**TASK ABCM-01-09-TYPE: ATON Deck Limitations and Parameters**

---

1. What is the working load limit for the boom/crane and the cross deck winches?
- 

**TASK ABCM-01-10-TYPE: Use and Application of ATON Buoy Deck Equipment**

---

1. Describe and define the use of the following buoy deck equipment:
    - a. Snatch blocks
    - b. Grapple hook
    - c. Lead line
    - d. Horse collar
    - e. Come-along
-



**TASK ABCM-01-11-TYPE: ATON Deck Seamanship and Associated Hardware**

---

1. The three most common types of shackles are \_\_\_\_\_, \_\_\_\_\_, and \_\_\_\_\_.
  2. The most common sinker weights are \_\_\_\_\_ and \_\_\_\_\_ lbs.
  3. Most sinkers have \_\_\_\_\_ bails, one on \_\_\_\_\_ and one on the \_\_\_\_\_.
  4. Swivels are necessary to \_\_\_\_\_ of the load.
  5. What are the types and sizes of Dor-Mor anchors and state each of their holding power?
  6. What terms are used to identify the type and size of chain?
- 

**TASK ABCM-01-12-TYPE: Mooring Maintenance**

---

1. When \_\_\_\_ percent of the bar diameter has been worn away, the chain must be replaced.
  2. What is meant by the term break the buoy?
  3. State all the personnel protective gear that must be worn during mooring maintenance.
  4. Buoy moorings consists of a bridle which is \_\_\_\_\_ short lengths of \_\_\_\_\_, connected by an \_\_\_\_\_.
- 

**TASK ABCM-01-13-TYPE: Griping Buoys and Sinkers**

---

1. A headblock is used in conjunction with a \_\_\_\_\_.
  2. What is meant by the term gripe in relation to buoy handling evolutions?
  3. Where are the deck lockers located in relation to the buoy deck?
- 

**TASK ABCM-01-14-ANY: Buoy Maintenance**

---

1. When handling buoys, it is advisable to keep the load \_\_\_\_\_ and handle it \_\_\_\_\_.
  2. What is the purpose for air testing a buoy?
  3. What is the function of the vent valve in a buoy?
  4. What is one of the primary safety hazards when recharging a buoy battery?
-



**TASK ABCM-01-15-TYPE: Mooring Evolution**

---

1. A rotten stop is a \_\_\_\_\_ intend to \_\_\_\_\_.
  2. What is meant by the command strike the horse collar?
  3. A nipper chain is a section of chain with \_\_\_\_\_ on both ends.
  4. A Modeer shackle is a 1 or 2 inch \_\_\_\_\_ shackle with a \_\_\_\_\_ type pin.
  5. What is a tag line used for?
- 

**TASK ABCM-01-16-TYPE: Towing a Buoy**

---

1. Never attempt to tow a buoy unless you know the \_\_\_\_\_ of the sinker and the size, \_\_\_\_\_ and \_\_\_\_\_ of mooring.
  2. Always tow from the \_\_\_\_\_ of the buoy.
-



# PART 3

## Boom/Crane Operator (BCO) Qualification

**Introduction** In addition to the Boat Crew Member qualification tasks, personnel assigned to Aids to Navigation Teams shall complete *Part 2*, ATON Boat Crew Member and *Part 3* Boom/Crane Operator prior to assuming this duty.

Members completing *Parts 2 and 3* shall certify in accordance with *U.S. Coast Guard Boat Operations and Training (BOAT) Manual, Volume II*, COMDTINST M16114.33 (series) and receive the applicable competency code.

**In this Part** This Part contains the following chapters:

Chapter	Title	See Page
1	Task Accomplishment Record for Boom/Crane Operator	3-2
2	Boom/Crane Operator Qualification Tasks	3-3
3	Boom/Crane Operator Trainee Study Guide	3-9



# CHAPTER 1

## Task Accomplishment Record for Boom/Crane Operator

**NOTE** 

Instructors shall use a copy of this form (for each trainee) to record accomplishment of tasks. Following task completion, task shall be recorded in the e-Training system.

TRAINEE NAME: \_\_\_\_\_ RATE: \_\_\_\_\_

INSTRUCTOR NAME: \_\_\_\_\_ RATE: \_\_\_\_\_

POSITION/QUALIFICATION CODE TO BE TRAINED FOR: \_\_\_\_\_

**NOTE** 

Instructors should line through those tasks not applicable to this qualification.

Task	Date Started	Date Completed	Instructor's Initials
BCO-01-01-TYPE			
BCO-01-02-TYPE			
BCO-01-03-TYPE			
BCO-01-04-TYPE			



## CHAPTER 2

### Boom/Crane Operator Qualification Tasks

**Introduction**

The following are objectives of Division One:

**Demonstrate** knowledge of the factors that affect crew performance.

In addition to the ATON Boat Crew Member qualification tasks, personnel assigned to aids to navigation units will complete the following section, if applicable.

**In this Chapter**

This Chapter contains the following tasks:

Task Number	Task	See Page
BCO-01-01-TYPE	<a href="#">Boom/Crane Operator Safety Fundamentals</a>	3-4
BCO-01-02-TYPE	<a href="#">Boom/Crane Operator Fundamentals</a>	3-5
BCO-01-03-TYPE	<a href="#">Boom/Crane System and Components</a>	3-6
BCO-01-04-TYPE	<a href="#">Boom/Crane Operation</a>	3-7



**TASK BCO-01-01-TYPE: Boom/Crane Operator Safety Fundamentals**

<b>References</b>	a. <i>Aids to Navigation Manual - Seamanship, COMDTINST M16500.21 (series)</i> b. <i>Naval Engineering Manual, COMDTINST M9000.6 (series)</i>
<b>Conditions</b>	Task will be performed onboard each boat type upon completion of <i>Chapter 3, Section A</i> of this Part. Trainee must accomplish task without prompting or use of a reference.
<b>Standards</b>	Trainee must complete the task in accordance with the steps below. Task must be accomplished so as not to endanger either the boat or its crew.

Performance Criteria	Completed (Initials)	Boat Type
1. Discuss the following safety topics: <ul style="list-style-type: none"> <li>a. When tag lines are required on lifts.</li> <li>b. The maximum height a load should be lifted and why landing area shall be clear prior to lifting the load.</li> <li>c. The dangers of shock-loading the boom/crane.</li> <li>d. Why the Boom/Crane Operator must follow the Buoy Deck Supervisor's hand signals.</li> <li>e. The special or emergency situations when the Boom/Crane Operator should take independent action.</li> <li>f. The warnings that may be seen or heard from faulty equipment or equipment under heavy strain.</li> <li>g. The precautions necessary when lifting loads near the rated capacity of the boom/crane.</li> <li>h. Why excessive speed and sudden starts or stops should be avoided on lifting equipment.</li> <li>i. Describe the minimum number of turns required on wire rope drums.</li> <li>j. The dangers of exceeding limits when boom/craning forward and aft.</li> <li>k. How external factors such as roll, pitch and wind affect boom/crane operations.</li> <li>l. Explain the importance of exercising the boom/crane.</li> <li>m. Explain importance of evenly distributing the deck load.</li> </ul>	_____ _____ _____	_____ _____ _____

**Instructor** \_\_\_\_\_ **Date** \_\_\_\_\_

**Comments**  
 \_\_\_\_\_  
 \_\_\_\_\_



**TASK BCO-01-02-TYPE: Boom/Crane Operator Fundamentals**

<b>References</b>	a. <i>Aids to Navigation Manual - Seamanship, COMDTINST M16500.21 (series)</i> b. <i>Naval Engineering Manual, COMDTINST M9000.6 (series)</i>
<b>Conditions</b>	Task should be performed at any time, onboard the unit's boats upon completion of TASK BCO-01-01-TYPE. Trainee must accomplish task without prompting or use of a reference.
<b>Standards</b>	Trainee must complete the task in accordance with the steps below.

Performance Criteria	Completed (Initials)	Boat Type
1. State the lifting limits of the boom/crane, whips and cross decks.	_____ _____ _____	_____ _____ _____
2. Identify the following blocks and tackles (as applicable): a. Single whip b. Wire rope snatch blocks	_____ _____ _____	_____ _____ _____
3. Explain the following characteristics of wire rope: a. Wire rope diameter b. Wire rope construction c. Types of wire rope cores d. Wire rope grade e. Explain how to determine serviceability f. Discuss restrictions on use	_____ _____ _____ _____	_____ _____ _____ _____
4. Discuss the importance of and procedures for wire rope lubrication and maintenance.	_____ _____ _____	_____ _____ _____
5. Explain the inspection standards for each of the following conditions which would cause the removal of wire rope from service: a. Crushing b. Broken wires/strands c. Kinks d. Loss of diameter e. Corrosion f. Excessive wear of outer wires	_____ _____ _____	_____ _____ _____
6. Identify and discuss the following relating to daily inspections prior to boom/crane operation: a. Wire rope spooling b. Wire rope lubrication c. Wire rope condition d. Condition of hooks and swivels e. Condition of end fittings f. Cotter pins and keepers g. Lubrication of fittings	_____ _____ _____	_____ _____ _____



Performance Criteria	Completed (Initials)	Boat Type
h. Operation of controls prior to energizing boom/crane i. Condition of blocks and sheaves		
7. Discuss the indications of improper operation for each of the following when the boom/crane is being exercised: a. Boom/crane controls b. Emergency shutoffs c. Swivels d. Rough or unsmooth operation e. Blocks f. Sheaves	_____ _____ _____	_____ _____ _____

**Instructor** \_\_\_\_\_ **Date** \_\_\_\_\_

**Comments** \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**TASK BCO-01-03-TYPE: Boom/Crane System and Components**

- References**
- a. *Specific Boat Type Operator's Handbook, COMDTINST M16114 (series)*
  - b. *Aids to Navigation Manual - Seamanship, COMDTINST M16500.21 (series)*
  - c. *Aids to Navigation Manual - Technical, COMDTINST M16500.3 (series)*
  - d. *Naval Engineering Manual, COMDTINST M9000.6 (series)*

**Conditions** Task should be performed at any time, onboard the unit's boats upon completion of TASK BCO-01-02 -TYPE. Trainee must accomplish task without prompting or use of a reference.

**Standards** Trainee must complete the task in accordance with the steps below.

Performance Criteria	Completed (Initials)	Boat Type
1. Discuss the following boom/crane system components applicable to the boom/crane: a. Controls b. Whip hoist c. Winches d. Brakes e. Drum f. Winch motor g. Rams h. Wire rope i. Limit cutoff switch	_____ _____ _____	_____ _____ _____
2. Discuss the following electrical system components associated with the boom/crane: a. Circuit breakers	_____ _____ _____	_____ _____ _____
3. Discuss the following hydraulic system components:	_____ _____	_____ _____



Performance Criteria	Completed (Initials)	Boat Type
a. Generator PTO b. Hydraulic pump c. Hydraulic motor d. Relief valve e. Temperature gauge f. Directional control valve g. Reservoir h. Filters i. Pressure gauge j. Emergency hydraulic hand pump.	_____ _____	_____ _____
4. Explain how to properly energize boom/crane hydraulics.	_____ _____ _____	_____ _____ _____
5. State the pressure and temperature operating parameters.	_____ _____ _____	_____ _____ _____
6. Discuss the effects of contaminants/air in hydraulic systems.	_____ _____ _____	_____ _____ _____
7. Discuss the identification of fluid leaks and the procedure for correcting leaks.	_____ _____ _____	_____ _____ _____

**Instructor** \_\_\_\_\_ **Date** \_\_\_\_\_

**Comments** \_\_\_\_\_

\_\_\_\_\_

**TASK BCO-01-04-TYPE: Boom/Crane Operation**

**References**

- a. *Aids to Navigation Manual - Seamanship, COMDTINST M16500.21 (series)*
- b. *Aids to Navigation Manual - Technical, COMDTINST M16500.3 (series)*
- c. *Naval Ships Technical Manual (as applicable)*
- d. *Naval Engineering Manual, COMDTINST M9000.6 (series)*

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**Conditions** Task should be performed at any time, onboard the unit's boats upon completion of TASK BCO-01-03-TYPE. Trainee must accomplish task without prompting or use of a reference.

---

**Standards** Trainee must complete the task in accordance with the steps below. Task must be accomplished so as not to endanger either the boat or its crew.



Part 3 - Boom/Crane Operator (BCO) Qualification  
 Chapter 2 - Boom/Crane Operator Qualification Tasks

Performance Criteria	Completed (Initials)	Boat Type
1. Conduct a pre-exercise inspection of boom/crane and cross deck.	_____ _____ _____	_____ _____ _____
2. Exercise the boom/crane and cross decks.	_____ _____ _____	_____ _____ _____
3. Operate the boom/crane with no load to limits of arc following hand signals from the Buoy Deck Supervisor.	_____ _____ _____	_____ _____ _____
4. Load/offload sinkers, chain, and unlighted buoys.	_____ _____ _____	_____ _____ _____
5. Load/offload lighted buoys.	_____ _____ _____	_____ _____ _____
6. Load/offload general cargo.	_____ _____ _____	_____ _____ _____
7. U/W work unlighted buoys and moorings.	_____ _____ _____	_____ _____ _____
8. U/W work lighted buoys and moorings.	_____ _____ _____	_____ _____ _____
9. Retrieve mudded/sanded in sinker.	_____ _____ _____	_____ _____ _____
10. Retrieve fouled mooring.	_____ _____ _____	_____ _____ _____
11. Retrieve a mooring with dangerously thin chain.	_____ _____ _____	_____ _____ _____

**Instructor** \_\_\_\_\_ **Date** \_\_\_\_\_

**Comments**  
 \_\_\_\_\_  
 \_\_\_\_\_



## CHAPTER 3

### Boom/Crane Operator Trainee Study Guide

**Introduction**

This Chapter should be removed and given to the trainee to keep. Its purpose is to provide guidance for the trainee’s reading assignments and is not a part of the training record.

The trainee should read the appropriate reading assignment and answer the related questions prior to beginning training in each new task. The instructor should then discuss the trainee’s answers to ensure understanding of the subject matter prior to beginning instruction for each new task.

**NOTE**

If there is no reading assignment assigned for a specific task, then the task will not have a page number to reference.

**In this Chapter**

This Chapter contains the following sections:

Section	Title	See Page
A	<a href="#">Reading Assignments</a>	3-10



## Section A. Reading Assignments

**Introduction**                      The reading assignment(s) should be read prior to beginning instruction of each task.

**In this Section**                      This Section contains the following reading assignments:

<b>Task Number</b>	<b>Task Title</b>	<b>Reading Assignment</b>	<b>See Page</b>
BCO-01-01-TYPE	Boom/Crane Operator Safety Fundamentals	<i>Aids to Navigation Manual - Seamanship</i> , COMDTINST M16500.21 (series) <i>Naval Engineering Manual</i> , COMDTINST M9000.6 (series)	3-11
BCO-01-02-TYPE	Boom/Crane Operator Fundamentals	<i>Aids to Navigation Manual - Seamanship</i> , COMDTINST M16500.21 (series) <i>Naval Engineering Manual</i> , COMDTINST M9000.6 (series)	3-11
BCO-01-03-TYPE	Boom/Crane System and Components	<i>Specific Boat Type Operator's Handbook</i> , COMDTINST M16114 (series) <i>Aids to Navigation Manual - Seamanship</i> , COMDTINST M16500.21 (series) <i>Aids to Navigation Manual - Technical</i> , COMDTINST M16500.3 (series) <i>Naval Engineering Manual</i> , COMDTINST M9000.6 (series)	3-12
BCO-01-04-TYPE	Boom/Crane Operation	<i>Aids to Navigation Manual - Seamanship</i> , COMDTINST M16500.21 (series) <i>Aids to Navigation Manual - Technical</i> , COMDTINST M16500.3 (series) Naval Ships Technical Manual (as applicable) <i>Naval Engineering Manual</i> , COMDTINST M9000.6 (series)	3-12



**TASK BCO-01-01-TYPE: Boom/Crane Operator Safety Fundamentals**

---

1. Why are hand signals so important to the Boom/Crane Operator during buoy handling operations?
  2. Tag lines are required to \_\_\_\_\_.
  3. In pounds, what is the maximum hoisting capacity (buoy working load limit) for attached resources?
  4. The minimum number of turns required on a wire rope drum is \_\_\_\_\_ turns.
  5. All hand signals during boom/crane operations should originate from the \_\_\_\_\_.
- 

**TASK BCO-01-02-TYPE: Boom/Crane Operator Fundamentals**

---

1. The boom winches contain \_\_\_\_\_ FT of \_\_\_\_\_-inch steel wire rope.
  2. The line speed of each A-frame winch is 0 to \_\_\_\_\_ FT per minute.
  3. The cross deck winches contain \_\_\_\_\_ FT of \_\_\_\_\_-inch steel wire rope.
  4. From how many different locations may the A-frame and cross deck winches be operated?
  5. What is the size of the lanyard attached to the chain stopper?
  6. What are at least four inspection items that are used to determine the serviceability of wire rope?
    - a.
    - b.
    - c.
    - d.
  7. What will support the load on the boom/crane if hydraulic pressure fails during a lifting operation?
  8. How can the load be lowered to the deck if suspended and there is no hydraulic pressure?
-



**TASK BCO-01-03-TYPE: Boom/Crane System and Components**

---

1. What is the function of the boom actuators?
  2. What is the function of the quick disconnect fittings at each boom and cross deck winch?
  3. What is the function of the chain stopper, chain guard and release assembly on the transom?
  4. Where is the buoy handling system hydraulic fluid heat exchanger located?
  5. How many disposable oil filters are located in the buoy handling hydraulic system?
  6. If pressure in the buoy handling system drops below \_\_\_\_\_ PSI or the temperature of the fluid exceeds \_\_\_\_\_ ° F, an alarm will sound in the pilothouse.
  7. What drives the hydraulic pump for buoy operation?
- 

**TASK BCO-01-04-TYPE: Boom/Crane Operation**

---

1. You can relieve floating aids up to and including a \_\_\_\_\_ by \_\_\_\_\_ FT lighted buoy, up to a \_\_\_\_\_ class lighted buoy, a sinker up to \_\_\_\_\_ lbs and up to a \_\_\_\_\_-inch chain can be handled.
  2. The \_\_\_\_\_ must be in operation to perform power on pre-start check to the buoy handling equipment.
  3. List four topside components associated with buoy handling equipment that should be inspected for hydraulic leaks when the system is static and operating.
    - a.
    - b.
    - c.
    - d.
  4. The \_\_\_\_\_ will provide hand signals to the Boom/Crane Operator during all buoy handling operations.
  5. Before bringing a lighted buoy on deck attach a \_\_\_\_\_ and \_\_\_\_\_ to prevent the buoy from swinging.
-



# PART 4 Buoy Deck Supervisor (BDS) Qualification

**Introduction**

In addition to the Boat Crew Member qualification tasks, personnel assigned to Aids to Navigation Teams shall complete *Part 2*, ATON Boat Crew Member, *Part 3*, Boom/Crane Operator, and *Part 4*, Buoy Deck Supervisor prior to assuming this duty.

Members completing *Parts 2, 3 and 4* shall certify in accordance with *U.S. Coast Guard Boat Operations and Training (BOAT) Manual, Volume II*, COMDTINST M16114.33 (series) and receive the applicable competency code.

**In this Part**

This Part contains the following chapters:

Chapter	Title	See Page
1	Task Accomplishment Record for Buoy Deck Supervisor	4-2
2	Buoy Deck Supervisor (BDS) Qualification Tasks	4-3
3	Buoy Deck Supervisor Trainee Study Guide	4-12



# CHAPTER 1

## Task Accomplishment Record for Buoy Deck Supervisor

**NOTE** 

Instructors shall use a copy of this form (for each trainee) to record accomplishment of tasks. Following task completion, task shall be recorded in the e-Training system.

TRAINEE NAME: \_\_\_\_\_ RATE: \_\_\_\_\_

INSTRUCTOR NAME: \_\_\_\_\_ RATE: \_\_\_\_\_

POSITION/QUALIFICATION CODE TO BE TRAINED FOR: \_\_\_\_\_

**NOTE** 

Instructors should line through those tasks not applicable to this qualification.

Task	Date Started	Date Completed	Instructor's Initials
BDS-01-01-TYPE			
BDS-01-02-TYPE			
BDS-01-03-TYPE			
BDS-01-04-TYPE			



## CHAPTER 2

### Buoy Deck Supervisor (BDS) Qualification Tasks

**Introduction**

The following are objectives of Division Two:

**Demonstrate** knowledge of the factors that effect crew performance.

In addition to the Boom/Crane Operator qualification tasks, personnel assigned to aids to navigation units will complete the following section, if applicable.

**In this Section**

This Section contains the following tasks:

Task Number	Task	See Page
BDS-01-01-TYPE	Buoy Deck Supervisor Safety Fundamentals	4-4
BDS-01-02-TYPE	Buoy Deck Supervisor Fundamentals	4-6
BDS-01-03-TYPE	Buoy Deck Supervisor Rigging Fundamentals	4-8
BDS-01-04-TYPE	Supervise a Buoy Deck Evolution	4-10



**TASK BDS-01-01-TYPE: Buoy Deck Supervisor Safety Fundamentals**

**References**

- a. *Aids to Navigation Manual - Seamanship, COMDTINST M16500.21 (series)*
- b. *Aids to Navigation Manual - Technical, COMDTINST M16500.3 (series)*
- c. *Naval Engineering Manual, COMDTINST M9000.6 (series)*

**Conditions** Task should be performed at any time, onboard the unit's boats. Trainee must accomplish task without prompting or use of a reference.

**Standards** Trainee must complete the task in accordance with the steps below.

Performance Criteria	Completed (Initials)	Boat Type
1. Discuss the following safety topics: <ul style="list-style-type: none"> <li>a. When tag lines are required on lifts.</li> <li>b. The maximum height a load should be lifted and why landing area shall be clear prior to lifting the load.</li> <li>c. The dangers of shock loading the boom/crane.</li> <li>d. Why the Boom/Crane Operator must follow the Buoy Deck Supervisor's hand signals.</li> <li>e. The special or emergency situations when the Boom/Crane Operator should take independent action.</li> <li>f. The warnings that may be seen or heard from faulty equipment or equipment under heavy strain.</li> <li>g. The precautions necessary when lifting loads near the rated capacity of the boom/crane.</li> <li>h. Why excessive speed and sudden starts or stops should be avoided on lifting equipment.</li> <li>i. Describe the minimum number of turns required on wire rope drums.</li> <li>j. The dangers of exceeding limits when boom/craning forward and aft.</li> <li>k. How external factors such as roll, pitch and wind affect boom/crane operations.</li> <li>l. Explain importance of evenly distributing the deck load.</li> <li>m. Explain air testing requirements and safety precautions.</li> </ul>	_____ _____ _____	_____ _____ _____
2. Explain the coordination required between the Buoy Deck Supervisor and ATON Coxswain.	_____ _____ _____	_____ _____ _____
3. Explain the importance of the evolution pre-brief and the assignment of personnel.	_____ _____ _____	_____ _____ _____
4. Discuss how the following external forces affect buoy deck operations: <ul style="list-style-type: none"> <li>a. Adverse weather</li> <li>b. Roll</li> <li>c. Boat control difficulties</li> <li>d. Pitch</li> <li>e. Fouled mooring</li> <li>f. List</li> <li>g. Current</li> <li>h. Wind</li> </ul>	_____ _____ _____	_____ _____ _____

Part 4 - Buoy Deck Supervisor Qualification  
 Chapter 2 – Buoy Deck Supervisor (BDS) Qualification Tasks



Performance Criteria	Completed (Initials)	Boat Type
5. Explain the importance of conducting operational pre-checks.	_____ _____ _____	_____ _____ _____
6. Explain the importance of exercising the boom/crane.	_____ _____ _____	_____ _____ _____
7. Explain what actions a Buoy Deck Supervisor should take to ensure safety in the following situations. a. Operating with a full deck load b. Swinging load c. Fouled tagline d. Two-blocked e. Loss of power during: (1) Hoisting a buoy (2) Pulling chain (3) Setting the buoy (4) Hanging the sinker (5) Pulling the sinker f. Parting the hoist wire, during: (1) Hoisting a buoy (2) Pulling chain (3) Setting the buoy (4) Hanging the sinker (5) Pulling the sinker g. Loss of main engines during: (1) Hoisting a buoy (2) Pulling chain (3) Setting the buoy (4) Hanging the sinker (5) Pulling the sinker h. Loss of cross deck control during: (1) Hoisting a buoy (2) Setting the buoy (3) Hanging the sinker (4) Pulling the sinker i. Loose buoy on deck	_____ _____ _____	_____ _____ _____
8. Define shock load and identify what safety precautions to take to prevent it.	_____ _____ _____	_____ _____ _____



Part 4 - Buoy Deck Supervisor Qualification  
 Chapter 2 – Buoy Deck Supervisor (BDS) Qualification Tasks

Performance Criteria	Completed (Initials)	Boat Type
9. Discuss the following abnormal situations, difficulties, dangers, and procedures: <ul style="list-style-type: none"> <li>a. Retrieving a sunken buoy</li> <li>b. Working in ice</li> <li>c. Knotted chain</li> <li>d. Fouled mooring</li> <li>e. Inverted buoy</li> <li>f. Mudded/sanded-in sinker</li> <li>g. Working a buoy with divers</li> <li>h. Working a diving buoy</li> <li>i. Towing buoys onto Station</li> <li>j. Retrieving stray buoys</li> </ul>	_____ _____ _____	_____ _____ _____

Instructor \_\_\_\_\_ Date \_\_\_\_\_

Comments \_\_\_\_\_  
 \_\_\_\_\_

**TASK BDS-01-02-TYPE: Buoy Deck Supervisor Fundamentals**

- References**
- a. *Aids to Navigation Manual - Seamanship, COMDTINST M16500.21 (series)*
  - b. *Aids to Navigation Manual - Technical, COMDTINST M16500.3 (series)*
  - c. *Naval Engineering Manual, COMDTINST M9000.6 (series)*

**Conditions** Task should be performed at any time, onboard the unit's boats upon completion of TASK BDS-01-01-TYPE. Trainee must accomplish task without prompting or use of a reference.

**Standards** Trainee must complete the task in accordance with the steps below.

Performance Criteria	Completed (Initials)	Boat Type
1. State the lifting limits of the boom/crane and whips.	_____ _____ _____	_____ _____ _____
2. Identify the following blocks and tackles (as applicable): <ul style="list-style-type: none"> <li>a. Single whip.</li> <li>b. Wire rope snatch blocks.</li> </ul>	_____ _____ _____	_____ _____ _____
3. Explain the following characteristics of wire rope: <ul style="list-style-type: none"> <li>a. Wire rope diameter</li> <li>b. Wire rope construction</li> <li>c. Types of wire rope cores</li> <li>d. Wire rope grade</li> <li>e. How to determine serviceability</li> <li>f. Restriction on use</li> </ul>	_____ _____ _____	_____ _____ _____
4. Discuss the importance of and procedures for wire rope lubrication and maintenance.	_____ _____ _____	_____ _____ _____

Part 4 - Buoy Deck Supervisor Qualification  
 Chapter 2 – Buoy Deck Supervisor (BDS) Qualification Tasks



Performance Criteria	Completed (Initials)	Boat Type
5. Explain the inspection standards for each of the following conditions which would cause the removal of wire rope from service: <ul style="list-style-type: none"> <li>a. Crushing</li> <li>b. Broken wires/strands</li> <li>c. Kinks</li> <li>d. Loss of diameter</li> <li>e. Corrosion</li> <li>f. Excessive wear of outer wires</li> </ul>	_____ _____ _____	_____ _____ _____
6. Identify and discuss the following relating to daily inspections prior to boom/crane operation: <ul style="list-style-type: none"> <li>a. Wire rope spooling</li> <li>b. Wire rope lubrication</li> <li>c. Wire rope condition</li> <li>d. Condition of hooks and swivels</li> <li>e. Condition of end fittings</li> <li>f. Cotter pins and keepers</li> <li>g. Lubrication of fittings</li> <li>h. Operation of controls prior to energizing boom/crane</li> <li>i. Conditions of hangers, blocks, straps, and sheaves</li> </ul>	_____ _____ _____	_____ _____ _____
7. Discuss the indications of improper operation for each of the following when the boom/crane is being exercised: <ul style="list-style-type: none"> <li>a. Boom/crane controls</li> <li>b. Emergency shutoffs</li> <li>c. Swivels</li> <li>d. Rough or unsmooth operation</li> <li>e. Blocks</li> <li>f. Sheaves</li> </ul>	_____ _____ _____	_____ _____ _____

**Instructor** \_\_\_\_\_ **Date** \_\_\_\_\_

**Comments**  
 \_\_\_\_\_  
 \_\_\_\_\_



**TASK BDS-01-03-TYPE: Buoy Deck Supervisor Rigging Fundamentals**

<b>References</b>	a. <i>Aids to Navigation Manual - Seamanship, COMDTINST M16500.21 (series)</i> b. <i>Aids to Navigation Manual - Technical, COMDTINST M16500.3 (series)</i> c. <i>Naval Engineering Manual, COMDTINST M9000.6 (series)</i>
<b>Conditions</b>	Task should be performed at any time, onboard the unit's boats upon completion of TASK BDS-01-02-TYPE. Trainee must accomplish task without prompting or use of a reference.
<b>Standards</b>	Trainee must complete the task in accordance with the steps below.

Performance Criteria	Completed (Initials)	Boat Type
1. Define WLL. Explain the importance of knowing the WLL and how to determine it on the following rigging equipment: a. Wire rope b. Slings (01) Wire rope (02) Chain (03) Synthetic c. Steamboat jacks / Tensors	_____ _____ _____	_____ _____ _____
2. Explain horizontal sling angles.	_____ _____ _____	_____ _____ _____
3. Discuss the authorized method for lifting compressed gas cylinders.	_____ _____ _____	_____ _____ _____
4. Describe two-blocking and the dangers involved.	_____ _____ _____	_____ _____ _____
5. Explain the importance of loads being level prior to lifting.	_____ _____ _____	_____ _____ _____
6. Explain the importance of establishing and maintaining a proper lead to control loads.	_____ _____ _____	_____ _____ _____

Part 4 - Buoy Deck Supervisor Qualification  
 Chapter 2 – Buoy Deck Supervisor (BDS) Qualification Tasks



Performance Criteria	Completed (Initials)	Boat Type
7. Explain the danger involved with point loading of hooks.	_____ _____ _____	_____ _____ _____
8. Explain the requirements for rated capacity tags on slings.	_____ _____ _____	_____ _____ _____
9. Discuss the safety considerations for towing buoys onto Station.	_____ _____ _____	_____ _____ _____
10. Discuss the safety considerations for retrieving stray buoys.	_____ _____ _____	_____ _____ _____
11. Explain how to drag a sinker on Station.	_____ _____ _____	_____ _____ _____
12. State the weight of the various types of buoys, sizes of chains and bridles serviced.	_____ _____ _____	_____ _____ _____
13. State the weight of the various types of buoys serviced by your unit when they are flooded.	_____ _____ _____	_____ _____ _____
14. Describe the boom/crane position for the following evolutions: a. Hooking a buoy b. Pulling chain c. Bringing the sinker onboard d. Hanging the sinker e. Setting the buoy f. Loading and off-loading g. Moving loads on deck in a seaway	_____ _____ _____	_____ _____ _____
15. Discuss the required frequencies and conduct rigging inspections and weight/load testing for the following equipment: a. Boom/crane b. Whips c. Hooks d. Cross decks e. Chain stop f. Recessed padeyes g. Pelican hook h. Gripe down chains	_____ _____ _____	_____ _____ _____
16. Slush wire rope	_____ _____ _____	_____ _____ _____



Instructor \_\_\_\_\_ Date \_\_\_\_\_

Comments \_\_\_\_\_  
 \_\_\_\_\_

**TASK BDS-01-04-TYPE: Supervise a Buoy Deck Evolution**

**References**  
 a. *Aids to Navigation Manual - Seamanship, COMDTINST M16500.21 (series)*  
 b. *Aids to Navigation Manual - Technical, COMDTINST M16500.3 (series)*

**Conditions**  
 Task should be performed at any time, onboard the unit's boats upon completion of TASK BDS-01-03-TYPE. Trainee must accomplish task without prompting or use of a reference.

**Standards**  
 Trainee must complete the task in accordance with the steps below. Task must be accomplished so as not to endanger either the boat or its crew.

Performance Criteria	Completed (Initials)	Boat Type
1. Conduct a pre-exercise inspection of boom/crane and cross deck.	_____ _____ _____	_____ _____ _____
2. Exercise the boom/crane and cross decks with no load to limits of arc using proper hand signals.	_____ _____ _____	_____ _____ _____
3. Supervise loading/offloading sinkers, chain, and unlighted buoys.	_____ _____ _____	_____ _____ _____
4. Supervise loading/offloading lighted buoys.	_____ _____ _____	_____ _____ _____
5. Supervise loading/offloading general cargo.	_____ _____ _____	_____ _____ _____
6. Supervise hanging and setting various unlighted buoys used in unit operational area (OPAREA).	_____ _____ _____	_____ _____ _____
7. Supervise hanging and setting various lighted buoys used in unit OPAREA.	_____ _____ _____	_____ _____ _____
8. Supervise servicing lighted and unlighted buoys on deck.	_____ _____ _____	_____ _____ _____

Part 4 - Buoy Deck Supervisor Qualification  
 Chapter 2 – Buoy Deck Supervisor (BDS) Qualification Tasks



Performance Criteria	Completed (Initials)	Boat Type
9. Retrieve mudded/sanded in sinker.	_____ _____ _____	_____ _____ _____
10. Retrieve fouled mooring.	_____ _____ _____	_____ _____ _____
11. Retrieve a mooring with dangerously thin chain.	_____ _____ _____	_____ _____ _____
12. Explain procedures for retrieval of a flooded buoy.	_____ _____ _____	_____ _____ _____
13. Explain procedures for retrieval of a sunken buoy by dragging.	_____ _____ _____	_____ _____ _____
14. Supervise retrieving, servicing and deploying lighted and unlighted buoys in adverse weather conditions.	_____ _____ _____	_____ _____ _____
15. Supervise towing buoys onto Station.	_____ _____ _____	_____ _____ _____
16. Supervise the retrieving of a stray buoy.	_____ _____ _____	_____ _____ _____
17. Conduct post buoy operation debriefs.	_____ _____ _____	_____ _____ _____
18. Explain procedures of a man overboard drill while servicing an aid.	_____ _____ _____	_____ _____ _____

**Instructor** \_\_\_\_\_ **Date** \_\_\_\_\_

**Comments** \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_



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## CHAPTER 3

### Buoy Deck Supervisor Trainee Study Guide

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**Introduction**

This Chapter should be removed and given to the trainee to keep. Its purpose is to provide guidance for the trainee’s reading assignments and is not a part of the training record.

The trainee should read the appropriate reading assignment and answer the related questions prior to beginning training in each new task. The instructor should then discuss the trainee’s answers to ensure understanding of the subject matter prior to beginning instruction for each new task.

**NOTE** 

If there is no reading assignment assigned for a specific task, then the task will not have a page number to reference.

**In this Chapter**

This Chapter contains the following sections:

Section	Title	See Page
A	Reading Assignments	4-13



## Section A. Reading Assignments

**Introduction**                      The reading assignment(s) should be read prior to beginning instruction of each task.

**In this Section**                      This Section contains the following reading assignments:

<b>Task Number</b>	<b>Task Title</b>	<b>Reading Assignment</b>	<b>See Page</b>
BDS-01-01-TYPE	Buoy Deck Supervisor Safety Fundamentals	<i>Aids to Navigation Manual - Seamanship</i> , COMDTINST M16500.21 (series) <i>Aids to Navigation Manual - Technical</i> , COMDTINST M16500.3 (series) <i>Naval Engineering Manual</i> , COMDTINST M9000.6 (series)	4-14
BDS-01-02-TYPE	Buoy Deck Supervisor Fundamentals	<i>Aids to Navigation Manual - Seamanship</i> , COMDTINST M16500.21 (series) <i>Aids to Navigation Manual - Technical</i> , COMDTINST M16500.3 (series) <i>Naval Engineering Manual</i> , COMDTINST M9000.6 (series)	4-15
BDS-01-03-TYPE	Buoy Deck Supervisor Rigging Fundamentals	<i>Aids to Navigation Manual - Seamanship</i> , COMDTINST M16500.21 (series) <i>Aids to Navigation Manual - Technical</i> , COMDTINST M16500.3 (series) <i>Naval Engineering Manual</i> , COMDTINST M9000.6 (series)	Buoy Deck Supervisor Rigging Fundamentals
BDS-01-04-TYPE	Supervise a Buoy Deck Evolution	<i>Specific Boat Type Operator's Handbooks</i> , COMDTINST M16114 (series) <i>Aids to Navigation Manual - Seamanship</i> , COMDTINST M16500.21 (series) <i>Aids to Navigation Manual - Technical</i> , COMDTINST M16500.3 (series)	4-16



**TASK BDS-01-01-TYPE: Buoy Deck Supervisor Safety Fundamentals**

---

1. Why are tag lines required when lifting loads?
  2. The Buoy Deck Supervisor must conduct \_\_\_\_\_ inspection of the buoy handling equipment if use is anticipated.
  3. How does the Buoy Deck Supervisor relay commands for buoy lifting and lowering operations to the Boom/Crane Operator/ATON Coxswain?
  4. What will happen if hydraulic power is lost and a buoy is suspended on the boom/crane?
  5. What is the most inherent danger if the whip should part during any buoy handling operation?
  6. The Buoy Deck Supervisor should conduct a briefing prior to beginning buoy deck operations. The following topics should be included:
    - a.
    - b.
    - c.
    - d.
  7. What operating indications will the Buoy Deck Supervisor observe if a buoy is being raised and the mooring is fouled?
-



**TASK BDS-01-02-TYPE: Buoy Deck Supervisor Fundamentals**

---

1. What are the WLL for the winches on the assigned buoy boat?
  2. What is the size, material, and length of the wire rope installed winches on the assigned buoy boat?
  3. What is the difference between strands and wire when expressing the size and serviceability of wire rope?
  4. What are five physical inspection standards that should be observed when visually inspecting wire rope?
    - a.
    - b.
    - c.
    - d.
    - e.
  5. Daily inspection and \_\_\_\_\_ of buoy handling equipment fittings is essential to maintain equipment serviceability.
  6. If the boom/crane/A-frame is being exercised and the operation is rough or erratic with audible noise in the hydraulic fluid flow, it is most likely an indication of \_\_\_\_\_ in the \_\_\_\_\_.
  7. Where is the manual release features located on your boat to safely lower a load if hydraulic pressure fails?
  8. What is meant by slushing a wire rope?
- 

**TASK BDS-01-03-TYPE: Buoy Deck Supervisor Rigging Fundamentals**

---

1. What is the danger of horizontal sling angles during any lifting operation?
  2. What is the normal safety factor required when testing slings and where can the last load test date of a sling be located?
  3. True or False. It is never a good practice to tow or drag a buoy from the chain stopper.
  4. A sinker of \_\_\_\_\_ lbs and a chain up to \_\_\_\_\_ inches can be handled by your boat.
  5. What is meant by the term two-blocking and what must be done if this situation occurs?
  6. For buoy handling operations, the line size used for rotten stops is determined by the \_\_\_\_\_ and \_\_\_\_\_ of the \_\_\_\_\_.
-



**TASK BDS-01-04-TYPE: Supervise a Buoy Deck Evolution**

---

1. What action might the Buoy Deck Supervisor recommend the Coxswain take if a sinker is mudded or sanded-in?
  2. The assigned boat can relieve up to a \_\_\_\_\_ class unlighted buoy.
  3. What is the function of the A-frame limit switch and where is it located on the 49' BUSL?
  4. Do not use \_\_\_\_\_ to mouse the hooks when lifting or lowering loads.
  5. Explain at least four items that should be included in the safety brief prior to buoy deck operations.
    - a.
    - b.
    - c.
    - d.
  6. The bridle is normally connected to the buoy with \_\_\_\_\_ shackles.
  7. If the throat opening of a hook has been enlarged greater than \_\_\_\_\_ percent, then it should be replaced.
  8. What safety gear must be worn by any buoy deck personnel that is engaged in battery maintenance?
-



# PART 5

## ATON Coxswain (ACOXN) Qualification Tasks

**Introduction**

This Part contains a collection of tasks, which must be learned, practiced, and performed by the trainee. These tasks represent the minimum elements of skill and knowledge necessary for safe and effective performance of Coast Guard Aids to Navigation.

**NOTE**

This Handbook is not meant to be ordered for purposes of obtaining individual qualification tasks. Qualification tasks should be reproduced locally and provided for trainees.

**In this Part**

This Part contains the following chapters:

Chapter	Title	See Page
1	<a href="#">Task Accomplishment Record for ATON Coxswain</a>	5-2
2	<a href="#">ATON Coxswain Qualification Tasks</a>	5-3
3	<a href="#">ATON Coxswain</a>	5-11



---

## CHAPTER 1

### Task Accomplishment Record for ATON Coxswain

---

**NOTE** *sw*

Instructors shall use a copy of this form (for each trainee) to record accomplishment of tasks. Following task completion, task shall be recorded in the e-Training system.

TRAINEE NAME: \_\_\_\_\_

RATE: \_\_\_\_\_

INSTRUCTOR NAME: \_\_\_\_\_

RATE: \_\_\_\_\_

POSITION/QUALIFICATION CODE TO BE TRAINED FOR: \_\_\_\_\_

**NOTE** *sw*

Instructors should line through those tasks not applicable to this qualification.

Task	Date Started	Date Completed	Instructor's Initials
ACOXN-01-01-ANY			
ACOXN-01-02-ANY			
ACOXN-01-03-TYPE			
ACOXN-01-04-TYPE			
ACOXN-01-05-TYPE			



## CHAPTER 2

### ATON Coxswain Qualification Tasks

**Introduction**

The following are the instructions for this Chapter:

- (01) The purpose of this Chapter is to provide guidance on the trainee’s progress through the qualification tasks.
- (02) The instructor should present the tasks to the trainee in a logical order using the instructions provided in *Part 1*.
- (03) Tasks should be signed, dated, and placed in the trainee’s training record/TMT when the instructor is satisfied that the trainee can consistently perform a task in accordance with all standards and conditions.

**Prerequisites**

- (01) A Coxswain must be a certified Coxswain on the boat type for which they are completing these qualifications.
- (02) Trainee must also be assigned to a unit with an Aids to Navigation capable boat.
- (03) Trainee must have completed the ATON BDS certification for the type.

**In this Chapter**

This Chapter contains the following sections:

Section	Title	See Page
A	<a href="#">ATON Coxswain</a>	5-4



---

## Section A. ATON Coxswain

---

### Introduction

The following are objectives of Division One:

- (01) Define and demonstrate knowledge of Aids to Navigation mission and policy.
- (02) Demonstrate ability to perform as Coxswain on a boat conducting Aids to Navigation missions.

### In this Section

---

This Section contains the following tasks:

Task Number	Task	See Page
ACOXN-01-01-ANY	ATON Positioning/Systems Definitions	5-5
ACOXN-01-02-ANY	ATON Administration	5-6
ACOXN-01-03-TYPE	Locating ATON Wreckage	5-7
ACOXN-01-04-TYPE	Servicing Floating Aid	5-8
ACOXN-01-05-TYPE	Servicing Fixed Aids	5-9



**TASK ACOXN-01-01-ANY: ATON Positioning/Systems Definitions**

**References**

- a. *Aids to Navigation Manual – Positioning and Range Surveying, COMDTINST M16500.1 (series)*
- b. *Aids to Navigation Manual – Administration, COMDTINST M16500.7 (series)*
- c. *Appropriate District SOP*

**Conditions**

Task should be performed at any time. Trainee must accomplish task without prompting or use of reference material.

**Standards**

Task must be performed in accordance with the criteria outlined by the applicable references.

Performance Criteria	Completed (Initials)
2. Define the following terms used in Aid Positioning: <ul style="list-style-type: none"> <li>a. USAIMS</li> <li>b. AP</li> <li>c. MPP</li> <li>d. Waterway Type</li> <li>e. Positioning Tolerance (PT)</li> <li>f. Accuracy classification</li> <li>g. Short Stay</li> <li>h. Excursion               <ul style="list-style-type: none"> <li>(1) Hypotenuse method</li> <li>(2) "L" method</li> </ul> </li> <li>i. Watch circle radius</li> <li>j. 2DRMS</li> <li>k. Found Fix</li> <li>l. Set Fix</li> <li>m. Positioning Datum</li> <li>n. Water Depth Datum</li> <li>o. APR</li> <li>p. FID</li> <li>q. Differential Beacon</li> </ul>	_____
2. Describe the following: <ul style="list-style-type: none"> <li>a. IALA A and B</li> <li>b. Intracoastal Waterway (ICW) Marking System</li> <li>c. Western Rivers Marking System</li> <li>d. Private Aids to Navigation</li> <li>e. Non-Lateral Aid to Navigation</li> </ul>	_____
3. Obtain the ATNNL qualification.	_____

**Instructor** \_\_\_\_\_

**Date** \_\_\_\_\_

**Comments**

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_



**TASK ACOXN-01-02-ANY: ATON Administration**

**References**

- a. *Aids to Navigation Manual – Administration, COMDTINST M16500.7 (series)*
- b. *Aids to Navigation Manual – Positioning and Range Surveying, COMDTINST M16500.1 (series)*
- c. *Cognizant District SOP*

**Conditions**

Task should be performed at any time. Trainee must accomplish task without prompting or use of reference material.

**Standards**

Task must be performed in accordance with the criteria outlined by the applicable references.

Performance Criteria	Completed (Initials)
3. Describe the use of the following forms: <ul style="list-style-type: none"> <li>a. Federal Aid to Navigation Operation Request, Form CG-3213</li> <li>b. Discrepancy Response Decision Guide Part I</li> <li>c. Discrepancy Response Decision Guide Part II</li> </ul>	_____
2. Explain the following CG ATON policies <ul style="list-style-type: none"> <li>a. Marking of Wrecks</li> <li>b. ATON Battery tracking</li> <li>c. ATON Battery release reporting requirements</li> <li>d. Review and Modification of ATON Systems</li> <li>e. General Operation Instructions for ATON Units               <ul style="list-style-type: none"> <li>(1) Discrepancy Buoys</li> <li>(2) Unauthorized Changes in Aids</li> <li>(3) Vandalism</li> <li>(4) Servicing Policy</li> </ul> </li> <li>f. Duties of ATON Units               <ul style="list-style-type: none"> <li>(1) Discrepancies</li> <li>(2) Storm Survey</li> <li>(3) Marine Accidents</li> <li>(4) Destroyed or Damaged Aids</li> <li>(5) General Duties</li> </ul> </li> <li>g. Correction of ATON discrepancies</li> </ul>	_____
3. Explain use of the following as pertains to ATON operations: <ul style="list-style-type: none"> <li>a. Light List</li> <li>a. Coast Pilot</li> <li>b. Local Notice to Mariners</li> <li>c. Broadcast Notice to Mariners</li> <li>d. Record Message Traffic:               <ul style="list-style-type: none"> <li>(1) Initial Report of Discrepancy</li> <li>(2) Discrepancy Update</li> <li>(3) Discrepancy Correction</li> </ul> </li> <li>e. Aid Folders</li> </ul>	_____



Performance Criteria	Completed (Initials)
4. Define: <ul style="list-style-type: none"> <li>a. Hazard to Navigation</li> <li>b. Obstruction to Navigation</li> </ul>	_____

**Instructor** \_\_\_\_\_ **Date** \_\_\_\_\_

**Comments** \_\_\_\_\_

**TASK ACOXN-01-03-TYPE: Locating ATON Wreckage**

**Reference** a. *Aids to Navigation Manual – Seamanship, COMDTINST M16500.21 (series)*

**Conditions** Task shall be performed while underway day only within operating parameters of the Aids to Navigation boat. Task must be accomplished without prompting or use of reference material.

**Standards** Task must be accomplished without excessive risk to the crew or boat. Task must be performed in accordance with the criteria outlined by the applicable references as applicable to unit missions and Area of Operation.

Performance Criteria	Completed (Initials)	Boat Type
1. Conduct crew brief to include the following: <ul style="list-style-type: none"> <li>a. Brief Aid details</li> <li>b. Brief planned evolution</li> <li>c. Assign Positions</li> <li>d. Check PPE</li> <li>e. Perform Risk Assessment</li> </ul>	_____ _____ _____	_____ _____ _____
2. Verify daily deck inspection	_____ _____ _____	_____ _____ _____
3. Verify deck set up for: <ul style="list-style-type: none"> <li>a. Dragging with grapnel</li> <li>b. Single boat wire sweep</li> <li>c. Two boat wire sweep (when two platforms are assigned)</li> </ul>	_____ _____ _____	_____ _____ _____
4. Perform Evolution: <ul style="list-style-type: none"> <li>a. Dragging with grapnel</li> <li>b. Single boat wire sweep</li> <li>c. Two boat wire sweep (when two platforms are assigned)</li> </ul>	_____ _____ _____	_____ _____ _____
5. Mark wreckage as appropriate	_____ _____ _____	_____ _____ _____

**Instructor** \_\_\_\_\_ **Date** \_\_\_\_\_

**Comments** \_\_\_\_\_



**TASK ACOXN-01-04-TYPE: Servicing Floating Aids**

- References**
- a. *Aids to Navigation Manual – Seamanship, COMDTINST M16500.21 (series)*
  - b. *Aids to Navigation Manual – Positioning and Range Surveying, COMDTINST M16500.1 (series)*
  - c. *Aids to Navigation Manual – Technical, COMDTINST M16500.3 (series)*
  - d. *Aids to Navigation Manual – Administration, COMDTINST M16500.7 (series)*
  - e. *Cognizant District SOP*

**Conditions** Task shall be performed while underway day only within operating parameters of the Aids to Navigation boat. Task must be accomplished without prompting or use of reference material.

**Standards** Task must be accomplished without excessive risk to the crew or boat. Task must be performed in accordance with the criteria outlined by the applicable references.

Performance Criteria	Completed (Initials)	Boat Type
4. Ensure pre-mission preparations are complete: <ul style="list-style-type: none"> <li>a. Verify USAIMS is correct and up to date,</li> <li>b. Verify boat configuration in USAIMS,</li> <li>c. Verify DGPS receiver settings,</li> <li>d. Calculate tides and currents,</li> <li>e. Evaluate weather forecast.</li> </ul>	_____ _____ _____	_____ _____ _____
3. Verify daily deck inspection.	_____ _____ _____	_____ _____ _____
4. Conduct crew brief to include the following: <ul style="list-style-type: none"> <li>a. Brief Aid details,</li> <li>b. Brief planned evolution,</li> <li>c. Assign Positions,</li> <li>d. Check PPE,</li> <li>e. Perform Risk Assessment.</li> </ul>	_____ _____ _____	_____ _____ _____
5. Maneuver boat for aid servicing <ul style="list-style-type: none"> <li>a. Verify aid’s location to permit safe approach,</li> <li>b. Assess effects of wind and current,</li> <li>c. Hoist day shapes,</li> <li>d. Make approach,</li> <li>e. Station keep as required,               <ul style="list-style-type: none"> <li>(1) Keep chain up &amp; down as during mooring retrieval,</li> <li>(2) Ride mooring at short stay,</li> <li>(3) Break out mudded in sinker,</li> <li>(4) Drag mooring to AP or new position,</li> <li>(5) Maneuver boat with sinker off the bottom,</li> </ul> </li> <li>f. Maintain communications with deck crew as aid is serviced,</li> <li>g. Set Buoy,</li> <li>h. Verify aid is watching properly.</li> </ul>	_____ _____ _____	_____ _____ _____



Performance Criteria	Completed (Initials)	Boat Type
6. Demonstrate proper positioning procedures, a. Obtain found fix using excursion, b. Obtain found fix using short stay, c. Obtain Set Fix in accordance with refs (b) and (d).	_____ _____ _____	_____ _____ _____
7. Complete aid documentation, a. APR, b. Federal information document, c. Appropriate record message traffic in accordance with ref (e).	_____ _____ _____	_____ _____ _____

**Instructor** \_\_\_\_\_ **Date** \_\_\_\_\_

**Comments** \_\_\_\_\_

\_\_\_\_\_

**TASK ACOXN-01-05-TYPE: Servicing Fixed Aids**

- References**
- a. *Aids to Navigation Manual – Positioning and Range Surveying, COMDTINST M16500.1 (series)*
  - b. *Aids to Navigation Manual – Technical, COMDTINST M16500.3 (series)*
  - c. *Aids to Navigation Manual – Administration, COMDTINST M16500.7 (series)*
  - d. *Aids to Navigation Manual – Structures, COMDTINST M16500.25 (series)*
  - e. *Cognizant District SOP*

**Conditions** Task shall be performed while underway day only within operating parameters of the Aid to Navigation Boat. Task must be accomplished without prompting or use of reference material.

**Standards** Task must be accomplished without excessive risk to the crew or boat. Task must be performed in accordance with the criteria outlined by the applicable references.

Performance Criteria	Completed (Initials)	Boat Type
1. Ensure pre-mission preparations are complete: a. Verify USAIMS is correct and up to date, b. Verify vessel configuration in USAIMS, c. Verify DGPS receiver settings, d. Calculate tides and currents, e. Evaluate weather forecast.	_____ _____ _____	_____ _____ _____
2. Verify daily deck inspection.	_____ _____ _____	_____ _____ _____
3. Conduct crew brief to include the following: a. Brief Aid details, b. Brief planned evolution, c. Assign positions, d. Check PPE, e. Perform Risk Assessment.	_____ _____ _____	_____ _____ _____



Part 5 - ATON Coxswain Qualification  
 Chapter 2 - ATON Coxswain Qualification Tasks

Performance Criteria	Completed (Initials)	Boat Type
4. Maneuver boat to deploy servicing personnel: <ul style="list-style-type: none"> <li>a. Verify aid's location to permit safe approach,</li> <li>f. Assess effects of wind and current,</li> <li>g. Make approach,</li> <li>h. Evaluate structural integrity of aid,</li> <li>i. Transfer servicing personnel and equipment to aid,</li> <li>j. Monitor climbing safety,</li> <li>k. Station keep as required,</li> <li>l. Maintain communications with crew as aid is serviced,</li> <li>m. Verify aid is watching properly,</li> <li>n. Recover personnel and equipment.</li> </ul>	_____ _____ _____	_____ _____ _____
5. Complete aid documentation: <ul style="list-style-type: none"> <li>a. APR,</li> <li>b. Federal information document,</li> <li>c. ATON Structure Inspection, Form CG-6042,</li> <li>d. SSMR and/or CASREP as required,</li> <li>e. Appropriate record message traffic in accordance with ref (e).</li> </ul>	_____ _____ _____	_____ _____ _____

**Instructor** \_\_\_\_\_ **Date** \_\_\_\_\_

**Comments**  
 \_\_\_\_\_  
 \_\_\_\_\_



## CHAPTER 3

### ATON Coxswain Trainee Study Guide

**Introduction**

This Chapter should be removed and given to the trainee to keep. Its purpose is to provide guidance for the trainee’s reading assignments and is not a part of the training record.

The trainee should read the appropriate reading assignment and answer the related questions prior to beginning training in each new task. The instructor should then discuss the trainee’s answers to ensure understanding of the subject matter prior to beginning instruction for each new task.

**NOTE**

If there is no reading assignment assigned for a specific task, then the task will not have a page number to reference.

**In this Chapter**

This Chapter contains the following sections:

Section	Title	See Page
A	<a href="#">Reading Assignments</a>	5-12



## Section A. Reading Assignments

**Introduction**      The reading assignment(s) should be read prior to beginning instruction of each task.

**In this Section**      This Section contains the following reading assignments:

<b>Task Number</b>	<b>Task Title</b>	<b>Reading Assignment</b>	<b>See Page</b>
ACOXN 01-01-ANY	ATON Positioning/Systems Definitions	<i>Aids to Navigation Manual – Positioning and Range Surveying</i> , COMDTINST M16500.1 (series) <i>Aids to Navigation Manual – Administration</i> , COMDTINST M16500.7 (series) Appropriate District SOP	5-13
ACOXN-01-02-ANY	ATON Administration	<i>Aids to Navigation Manual – Positioning and Range Surveying</i> , COMDTINST M16500.1 (series) <i>Aids to Navigation Manual – Administration</i> , COMDTINST M16500.7 (series) Appropriate District SOP	5-13
ACOXN-01-03-TYPE	Locating ATON Wreckage	<i>Aids to Navigation Manual – Seamanship</i> , COMDTINST M16500.21 (series)	5-13
ACOXN-01-04-TYPE	Servicing Floating Aids	<i>Aids to Navigation Manual – Seamanship</i> , COMDTINST M16500.21 (series) <i>Aids to Navigation Manual – Positioning and Range Surveying</i> , COMDTINST M16500.1 (series) <i>Aids to Navigation Manual – Technical</i> , COMDTINST M16500.3 (series) <i>Aids to Navigation Manual – Administration</i> , COMDTINST M16500.7 (series) Cognizant District SOP	5-14
ACOXN-01-05-TYPE	Servicing Fixed Aids	<i>Aids to Navigation Manual – Positioning and Range Surveying</i> , COMDTINST M16500.1 (series) <i>Aids to Navigation Manual – Technical</i> , COMDTINST M16500.3 (series) <i>Aids to Navigation Manual – Administration</i> , COMDTINST M16500.7 (series) <i>Aids to Navigation Manual – Structures</i> , COMDTINST M16500.25 (series) Cognizant District SOP	5-14



**TASK ACOXN-01-01 ANY: ATON Positioning/Systems Definitions**

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1. When an aid is not on AP, but it best marks a channel, you may request to District that \_\_\_\_ become \_\_\_\_.
  2. The different methods for excursion are \_\_\_\_\_ & \_\_\_\_\_.
  3. When positioning, the required DGPS strings are GSA, GGA, GST, GRS, and \_\_\_\_\_.
  4. The Intracoastal Waterway Marking System is identified by \_\_\_\_\_ squares, triangles and 2 inch strips of retro-reflective tape.
- 

**TASK ACOXN-01-02 ANY: ATON Administration**

---

1. When determining the DRF for a discrepancy, you use the product of \_\_\_\_\_ & \_\_\_\_\_.
  2. If you have a discrepancy of a High Priority aid you must attend to that aid within \_\_\_\_\_ hours.
  3. When a lighted aid has been destroyed and the wreckage is unrecoverable, a \_\_\_\_\_ message is sent out by the primary unit.
  4. After a major storm, you are required to verify \_\_\_\_\_ & \_\_\_\_\_ aids.
  5. When \_\_\_\_\_ work is done to an aid, the work must be documented in the work report and entered into I-ATONIS.
- 

**TASK ACOXN-01-03 TYPE: Locating ATON Wreckage**

---

1. What three methods are used to locate wreckage?  
\_\_\_\_\_, \_\_\_\_\_ and \_\_\_\_\_
  2. If wreckage is found, what are the required markings/lights for the wreck buoy?
  3. When setting the wreck buoy, it must be set approximately 10 yards \_\_\_\_\_.
  4. If no wreckage was found, you are required to mark the channel as \_\_\_\_\_.
  5. When setting a buoy on AP, it is considered "on station" when it is \_\_\_\_\_ \_ \_.
-



**TASK ACOXN-01-04 TYPE: Servicing Floating Aids**

---

1. A safety \_\_\_\_\_ should be conducted prior to working a buoy.
  2. When positioning a buoy, \_\_\_\_\_ weather must be Used.
  3. Day shapes, consisting of a \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_ must be used when you are restricted in ability to maneuver while working buoys.
  4. When you are verifying the advertisement of an aid, what sources should you confirm? Chart, Coast Pilot and \_\_\_\_\_.
  5. Once work is completed on a discrepancy, a \_\_\_\_\_ message needs to be released.
- 

**TASK ACOXN-01-05 TYPE: Servicing Fixed Aids**

---

1. Whenever possible, day marks shall be mounted on an \_\_\_\_\_ to the channel.
  2. Structures exceeding \_\_\_\_\_ FT in height shall be equipped with \_\_\_\_\_ metal \_\_\_\_\_ that conform to the CFR.
  3. A \_\_\_\_\_ device should provide servicing personnel with the safest, practical conditions for climbing beacon structure ladders over \_\_\_\_\_ FT above the next lower level.
-



# APPENDIX A Glossary

**Introduction** This appendix contains a list of terms that may be useful when reading this Handbook.

**In this appendix** This appendix contains the following information:

Topic	See Page
Glossary	<a href="#">A-2</a>



TERM	DEFINITION
<b>Aids to Navigation Team</b>	An Aids to Navigation Team is a Coast Guard shore facility with an OPFAC, command cadre, and permanently assigned dutystanders, unit boat allowance, and equipment, which reports to a Group, Section or Activity command, or District Commander (in the case of D17).
<b>Air Station</b>	An Air Station is a Coast Guard shore facility with an OPFAC, command cadre, and permanently assigned dutystanders, unit boat allowance, and equipment, which reports to a Group, Section or Activity command, or District Commander (in the case of D17).
<b>Auxiliary-Operated Station (Small)</b>	An Auxiliary-Operated Station (small) is a Station (small) that relies on auxiliary members for its primary duty section staffing for three or more months a year is considered to be an “auxiliary operated” unit. Auxiliary operated Units may or may not have an active duty command cadre (i.e., OIC).
<b>Boat Crew</b>	Includes the coxswain, boat engineer, crewmen, and all other personnel required onboard a boat acting in an official capacity.
<b>Boat Crew Examination Board (BCEB)</b>	A group of certified boat crew members, consisting of experienced surfmen, heavy weather coxswains, boat coxswains, engineers, and crew members, as applicable, selected by the unit commander and organized to examine and evaluate boat crew candidates. BCEB is designated in writing.
<b>Boat Outfit/Stowage Plans</b>	The configuration requirements for standard boat outfits and equipment stowage plans are set forth in the applicable specific boat type Operator’s Handbook, COMDTINST M16114 (series).
<b>Certification</b>	Formal command verification that an individual has met all requirements and is authorized to perform the boat crew duties at a specific level aboard a particular boat type.
<b>Command Cadre</b>	The CO or OIC, the Executive Officer or Executive Petty Officer, the Engineering Petty Officer and senior Boatswain’s Mate (at units with COs) are a unit’s command cadre.
<b>Crew Rest</b>	Time during which alert crews do not engage in any Station work or operations. Crews are allowed to recreate and sleep.
<b>Crew Underway Time</b>	Begins when the crewmember reports to the designated place to prepare for a specific boat mission. Computation of such time ends when the mission is complete. Crew underway time includes time spent accomplishing pre-mission and post-mission boat checks.



TERM	DEFINITION
<b>Current</b>	A current crewmember is certified and has all recurring training requirements completed and up to date. Currency is maintained by completing the regularly scheduled minimum proficiency requirements of their current crew position.
<b>Cutter</b>	A Cutter, to which a cutterboat is assigned, contains an OPFAC, command cadre, and permanently assigned dutystanders, unit boat allowance, and equipment, which reports to a Sector, Group/Air Station, District or Area Commander.
<b>Engineering Changes (ECs)</b>	<p>These are the only authorized modifications to a standard boat. No one other than Commandant (G-SEN) is authorized to approve ECs to standard boats. The Specific Boat Type Operator's Handbook, COMDTINST M16114 (series) provides amplifying details on the EC process.</p> <p><b>NOTE</b>  Engineering Changes (ECs) were formerly known as BOATALTS.</p>
<b>Fatigue</b>	A condition of impaired mental and physical performance brought about by extended periods of exertion and stress which reduces the individual's capability to respond to external stimuli. Some factors contributing to fatigue are sleep loss, exposure to temperature extremes (hypothermia and heat stress), motion sickness, changes in work and sleep cycles, physical exertion, workload, illness, hunger, and boredom. While an individual or crew may be considered to be fatigued at any time, at a minimum, they are considered to be fatigued when they exceed the underway or alert posture standards in this Section.
<b>Fatigue Waiver</b>	A waiver to crew rest or rest-recovery requirements granted by a Group Commander.
<b>Heavy Weather</b>	<p>Heavy weather is defined as sea, swell and wind conditions combining to exceed 8 FT and/or winds exceeding 30 KTS.</p> <p><b>NOTE</b>  This definition of heavy weather is not intended to define a heavy weather situation for a specific boat type, as defined in <i>U.S. Coast Guard Boat Operations and Training (BOAT) Manual, Volume I</i>, COMDTINST M16114.32 (series).</p>
<b>Night</b>	Night is defined as ½ hour after nautical sunset and ½ hour before nautical sunrise.
<b>Non-Pooled Station (Small)</b>	A Non-Pooled Station (small) is a Station (small) with permanently assigned personnel. These units will be assigned an Operating Facility (OPFAC) number, unit boat allowance and OIC.



TERM	DEFINITION
<b>Operational Commander</b>	For the purpose of this Handbook, Operational Commanders are defined as commanders of Sectors, Group/Air Stations, and Sections, who exercise direct operational control of a subordinate unit with a standard boat or non-standard boat assigned. This definition specifically does not include Station COs/OICs exercising operational control of a Station (small).
<b>Operations</b>	Time spent on pre-mission planning, underway, and post mission reporting or follow-up.
<b>Parent Station</b>	A parent Station is a unit with one or more subordinate Stations (small/s). Its command cadre allowance may be different from that of a typical unit to account for the increased responsibility associated with the assignment of subordinate Stations (small/s).
<b>Pooled Station (Small)</b>	The Pooled Station (small) is essentially a “remote operating location”. A Pooled Station (small) appears in the <i>Operating Facilities Change Order (OFCO)</i> , COMDTINST M5440.3 (series), but will not have an assigned OPFAC number, assigned unit boat allowance, personnel, or an OIC. The parent unit for this Pooled Station (small) has additional personnel to operate a boat from the physical location of the Station (small).
<b>Qualification</b>	The satisfactory completion of the appropriate qualification tasks.
<b>Readiness</b>	The ability of a boat to perform the functions and missions for which it was designed.
<b>Ready for Operations Team (RFO Team)</b>	A minimum of three members, the RFO team consists of members designated by the Operational Commander. Teams conduct annual assessment visits to ensure the goals of the Readiness and Standardization Program are achieved.
<b>Recertification Process</b>	The steps a crew member takes to regain command authorization to be assigned boat crew duties when prior certification has lapsed due to permanent change of station (PCS) transfer, failure to meet semi-annual/annual currency requirements, or revocation.
<b>Reserve Augmented Unit</b>	A Reserve Augmented Unit is a unit that relies on reserve personnel for at least one third of its primary duty section staffing for three or more months a year.
<b>Rough Bar</b>	A rough bar is a river entrance or inlet where Heavy weather or surf conditions exist. Also, in situations when the coxswain or the CO/OIC is unsure, a rough bar is assumed.



TERM	DEFINITION
<b>Senior Boatswain's Mate</b>	The senior Boatswain's Mate permanently assigned, other than the OIC or XPO. For purposes of Boat Crew Training, this individual is considered a member of the command cadre whose primary function is to lend experience to the unit training program, and assist in the training and mentoring of subordinate personnel.
<b>Sleep Period</b>	A period of time available for an individual to devote to sleeping that is not interrupted by official responsibilities.
<b>Standardization Team (Stan Team)</b>	A three to five member deployable evaluation team that consists of highly trained and experienced professionals specializing in the operational/deck and engineering aspects of each standard boat platform. Each team conducts biennial assessment visits to ensure the goals of the Readiness and Standardization Assessment (outlined in this Handbook) are achieved. These teams act as a deployable asset to the centers of excellence (UTBSC/NMLBS/NATON) for each standard boat platform, and in addition to providing field units with technical information, they support the centers by providing guidance and feedback to improve school training and program functions.
<b>Station</b>	A Station is a Coast Guard shore facility with an OPFAC, command cadre, and permanently assigned dutystanders, unit boat allowance, and equipment, which reports to a Group, Section or Activity command, or District Commander (in the case of D17).
<b>Station (Small)</b>	A Station (small) is a minimally staffed and resource constrained unit that receives operational direction, command, and support from its parent unit.
<b>Station Aids to Navigation Team (STANT)</b>	A STANT is a Coast Guard shore facility with an OPFAC, command cadre, and permanently assigned dutystanders, unit boat allowance, and equipment, which reports to a Group, Section or Activity command, or District Commander (in the case of D17).
<b>Station Work</b>	Activities that constitute normal unit work which are not directly associated with duty, boat operations, pre-mission planning, or post-mission reporting and follow-up. Ex: boat maintenance, Station cleanup, non-mission administrative tasks.
<b>Structural Configuration Characteristics</b>	This applies to the fit, form, and function of structural vessel parts. Watertight closures, vessel coatings, and mounted equipment locations are managed by structural configuration requirements.
<b>Surf</b>	Surf is defined as the waves or swell of the sea breaking on the shore or a reef.
<b>Task</b>	A separate training step learned in order to perform a particular job skill.
<b>Task Code</b>	A four-element code used to identify the applicability of tasks listed in this Handbook.



<b>TERM</b>	<b>DEFINITION</b>
<b>Training Mentor</b>	Certified individual who meets all prerequisites to sign training PQS.
<b>Training Petty Officer</b>	The petty officer assigned by the unit commander to supervise all aspects of unit training.
<b>Type</b>	A particular class of boat, such as 41' UTB, 49' BUSL, or 47' MLB.
<b>Unit Commander</b>	A CO or OIC of a unit with a standard or non-standard boat assigned.
<b>Unit Training Petty Officer</b>	The person designated by unit and billet assignment to supervise all aspects of unit training.
<b>Urgent Operations</b>	A mission of sufficient importance that the District Commander elects to execute it with a fatigued boat crew.
<b>Urgent SAR</b>	A mission which involves the probable loss of life unless the Coast Guard intervenes.



# APPENDIX B

## List of Acronyms

**Introduction** This appendix contains a list of acronyms used throughout the Handbook.

**In this appendix** This appendix contains the following information:

Topic	See Page
List of Acronyms	<a href="#">B-2</a>



ACRONYM	DEFINITION
ABCM	ATON Boat Crew Member
AC	Alternating Current
ACOXN	ATON Coxswain
AIRBCM	Air Boat Boat Crew Member
AIRCOXN	Air Boat Coxswain
AOR	Area of Responsibility
BCEB	Boat Crew Examination Boards
BCM	Boat Crew Member
BCO	Boom/Crane Operator
BDS	Buoy Deck Supervisor
BECCE	Basic Engineering Casualty Control Exercises
BFCO	Boat Forces and Cutter Operations
BM	Boatswain's Mate
BUSL	Buoy Utility Stern Loading
CASREP	Casualty Report
CDV	Course Deviation Variance
CFR	Code of Federal Regulations
CO	Commanding Officer
CO/OIC	Commanding Officer/Officer-in-Charge
COMDTINST	Commandant Instruction
COXN	Coxswain
CS	Creeping Line Search
CSP	Commence Search Point
DC	Direct Current
DGPS	Differential Global Positioning System
DR	Dead Reckoning
E-SAR	Electronic Search and Rescue Fundamentals Course
EBL	Electronic Bearing Line
EC	Engineering Change
ECM	Electronic Control Module
EMT	Emergency Medical Technician



EPIRB	Emergency Position Indicating Radio Beacon
ENG	Engineer
ETA	Estimated Time of Arrival
FLIR	Forward Looking Infra Red
GAR	Green-Amber-Red
GPS	Global Positioning System
GSA	General Services Administration
HCU	Hand Control Unit
HDOP	Horizontal Dilution of Precision
HELP	Heat Escape Lessening Position
HVAC	Heating, Ventilation, and Air Conditioning
HWX	Heavy Weather Coxswain
ICW	Intracoastal Waterways
IMF	International Medium Frequency
IR	Infra Red
KTS	Knots
LOP	Line of Position
MARB	Marine Assistance Request Broadcast
MLB	Motor Lifeboat
MLC	Maintenance and Logistics Command
MOB	Man Overboard
NAVRULS	Navigation Rules
NCV	Noncompliant Vessel
NM	Nautical Miles
NMEA	National Marine Electronics Association
NMLBS	National Motor Lifeboat School
NSB	Non-Standard Boat
OIC	Officer-in-Charge
OPAREA	Operational Area
OPFAC	Operating Facility
ORM	Operational Risk Management
PCS	Permanent Change of Station
PFD	Personal Flotation Device
PIW	Person-in-the-Water
PLB	Personal Locator Beacon
PMS	Preventive/Planned Maintenance System
POB	Person Onboard
PPE	Personal Protective Equipment
PPS	Precise Positioning Service



PQS	Personnel Qualification Standard
PS	Parallel Search
PTO	Power Take-Off
PTT	Press to Talk
PWCS	Ports Waterways and Coastal Security
RB-S	Response Boat Small
RB-HS	Response Boat Homeland Security
RB-M	Response Boat Medium
RFO	Ready for Operations
RPM	Revolutions per Minute
SAR	Search and Rescue
SGA	Stabilized Gimball Assembly
SINS	Scalable Integrated Navigation System
SMC	SAR Mission Coordinator
SOG	Speed Over Ground
SOP	Standard Operating Procedures
SPC (HWX)	Special Purpose Craft Heavy Weather
SPC-LE	Special Purpose Craft Law Enforcement
SPE	Severity-Probability-Exposure
SPE/GAR	Severity-Probability-Exposure/Green-Amber-Red
SPS	Standard Positioning Service
SRF	Surfman
SS	Square Search
SSB-HF	Single Side Band-High Frequency
STANT	Station Aids to Navigation Team
TAP	TruLink Access Point
TCT	Team Coordination Training
TD	Time Difference
TPT	TruLink Portable Transceiver
TSN	TrackLine Single-Unit Non-Return
TSR	TrackLine Single-Unit Return
U/W	Underway
UHF	Ultra High Frequency
UPH	Unaccompanied Personnel Housing
UTB	Utility Boat
UTM	Utility Boat Medium
VAC	Volts Alternating Current
VDC	Volts Direct Current
VHF	Very High Frequency

Appendix B - List of Acronyms



VOX	Voice Operated Transmitter
VRM	Variable Range Marker
VRO	Variable Ratio Oiler
VS	Sector Search
WLL	Working Load Limit
XPO	Executive Petty Officer
XTE	Cross Track Error