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Chapter 1: Introduction to Qualification

Introduction

This part illustrates the qualification process through the following discussions:

- Description of qualification.
- Sample task.
- Description of tasks.
- Instructor guidance.
- Trainee guidance.

It is imperative that a very high level of professionalism be maintained among all unit instructors. All instructors must ensure that their certification remains current. In addition, instructors must ensure that they retain their proficiency with all installed boat equipment.

NOTE

This Manual 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 sections:

Section	Title	See Page
A	Description of Qualification	3
B	Sample Task	4
C	Description of Tasks	5
D	Instructor Guidance	8
E	Trainee Guidance	11

Section A. Description of Qualification

Introduction

There are five Boat Crew Qualification parts of this manual. They are:

- *Chapter 1:* Introduction to Qualification
- *Chapter 2:* Boat Crew Member (BCM) Task Accomplishment Record
- *Chapter 3:* Qualification Tasks
- *Chapter 4:* Trainee Study Guide

Additional tasks and/or chapters may be included to address specific mission qualification requirements.

Chapter 2 contains a task accomplishment record which allows the instructor to record the trainee's progress throughout the qualification process.

Chapter 3 is made up of the qualification tasks, which are designed to measure the trainee's progress.

Chapter 4 provides guidance for the trainee's reading assignments and is to be removed and retained by the trainee.

Suggested vs. Required

Agencies and Program Managers can choose which tasks are required, and establish their agency minimum standards and policy mandates. However, for standardization of United States Coast Guard resources and Federal Emergency Management Agency typing, the required tasks to meet those standards will be identified with the icon below.





Section B. Sample Task

TASK ENG-01-33-ANY

Identify the Breaker Panels

Reference

a. *41' UTB Operator's Handbook*, COMDTINST M16114.2 (series)

Conditions

Task should be performed at any time aboard any of the unit's standard boats without the use of reference or prompting.

Standards

In response to the instructor, the trainee must, without error, identify different parts of the electrical panels.

Performance Criteria	Completed (Initials)
1. Identify AC breaker panel.	<u>IMU</u>
2. Identify DC breaker panel.	<u>IMU</u>
3. Identify shore-tie.	<u>IMU</u>

Instructor

Officer I. M. UNDERWAY

Date

25 OCT 99

Comments



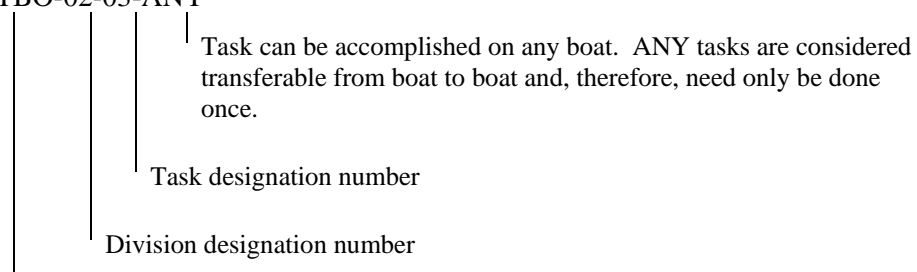
Section C. Description of Tasks

C.1. Task Designation The recommended means by separating and identifying different tasks is to identify each task by designation. Below are two examples with explanations of the qualification task designations, and how they can be implemented.

NOTE

C.1.a. Example 1

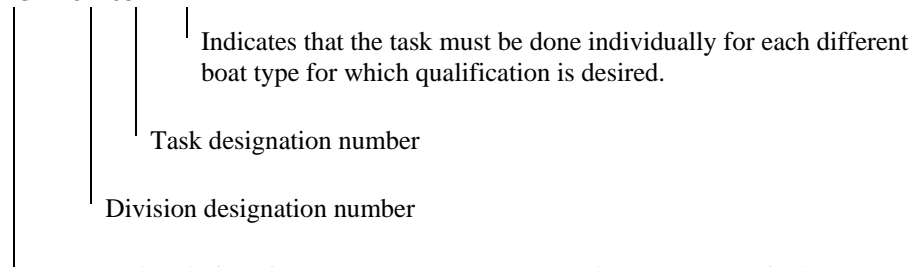
TBO-02-03-ANY



Crewmember designation number – Boat Crew Member (BCM), Tactical Boat Crew Member (TBCM), Boat Operator (BO), Tactical Boat Operator (TBO)

C.1.b. Example 2

BCM-02-03-TYPE



Crewmember designation number – Boat Crew Member (BCM), Tactical Boat Crew Member (TBCM), Boat Operator (BO), Tactical Boat Operator (TBO)

C.2. Task

The task is defined as knowledge or skill objective to be performed.

NOTE

All tasks should be completed unless specifically stated otherwise. When situations exist that preclude a member from completing a task (e.g. boat does not carry specific gear) the task may be deferred at Program Manager discretion.

C.3. Reference

References are information sources used by the trainee and instructor to obtain the background necessary to enhance task performance.



C.4. Conditions

The 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 definitions describe the terms found in the conditions and standards:

C.4.a. Boat Operations

Term	Definition
Slow	Underway and moving ahead at clutch speed or slower
Underway	Not tied to a pier or float and not anchored or moored

C.4.b. Visibility

Term	Definition
Restricted	Visibility less than ¼ mile
Clear	All other states of visibility

C.4.e. Sea Conditions

Term	Definition
Calm	Seas less than 4 FT
Moderate	Seas 4 to 8 FT
Heavy	Seas greater than 8 FT
Surf	Waves or swell of the sea breaking on the shore or a reef

NOTE 

During the period a member is qualifying, the minimum sea conditions are just that, minimums. This qualifying period should include demonstration of skills during wind and sea conditions appropriate for the area. The Program Manager should consider maximum weather limitations in conjunction with agency policies to ensure trainees build confidence and platform proficiency gradually. The trainee must practice in varied conditions within the above ranges and not just the minimums prior to certification.

C.5. Standards

Standards describe the expected outcome of the task. 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:

C.5.a. Knowledge Tasks

Trainee must be able to cite, from memory, the required information. Instructors may wish to ask questions concerning particular steps for accomplishment in order to measure the trainee's total comprehension of the subject matter.

C.5.b. Skill Tasks

Trainee must be able to perform all performance tasks without prompting or assistance from the instructor. Each task demonstration must follow the correct sequence with little or no hesitation between the steps for accomplishment.



C.6. Performance Criteria

These steps delineate the procedure that is best followed for performing each task. They can be utilized two basic ways:

Aid in learning the task.
Serve as a performance check.

C.6.a. Aid in Learning the Task

Some steps for task accomplishment follow exact procedures which are required for performing a particular operation or using a specific piece of equipment, while others serve as general guidelines for task completion.

C.7. Accomplished

The designated instructor must print his/her name and rate, sign and date this line attesting that the trainee successfully performed the task in accordance with the prescribed standards.

C.8. Comments

The comment section can be used to describe circumstances or conditions which might have a bearing on task completion. Failure to perform any element or unsatisfactory performance of an individual element should be noted in the comments section for the task. If the task is completed under more arduous circumstances than those described, a notation should be made.

NOTE 

Chapter 3 of each qualification part provides a list of all tasks in that part with space for the instructor to initial and date when each task has been completed.

NOTE 

Chapter 4 of each qualification part lists reading assignments for each division followed by a group of questions that should be used by the trainee as a study guide.



Section D. Instructor Guidance

Introduction

Tasks are meant to be learned through constant practice under the instructor's guidance. This is accomplished by following the procedural steps listed below and provided in **Figure 1-1 Procedure for Guiding Trainees**.

The following guidance is a recommended process and format for insuring that the process is an organized and detailed method for the trainee to accomplish the qualification tasks. Agencies and Program Managers are encouraged to use this as the template for their process of qualification withing their department, division or organization.

D.1. Give Chapter 3 to the Trainee

Give the trainee the reading assignments and study guide questions. Remove *Chapter 3* from the part and give it to the trainee to retain.

D.2. Assign the Task

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

- Which tasks must be completed depends on the crew position and type of boat for which the trainee is being qualified. Notes specifying task applicability may be found at the beginning of each task if applicable.
 - Tasks designated as TYPE are considered to be specific to each boat type. These must be completed individually for each desired boat type qualification.
 - 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.
-

D.3. Confirm Completion of the Reading Assignment

Care should be taken at this point to clarify any misunderstandings the trainee might have about the material.

D.4. Demonstrate the Task to the Trainee

Demonstrate the steps required to complete the task. During the demonstration, the instructor should narrate the procedures. If the task is one of the few that does not require demonstration, proceed to the next step.

D.5. Walk the Trainee Through the Task

In order to ensure that the trainee understands, the instructor may want to walk the trainee through the steps more than once. There is no limit to the number of times the instructor performs the walk-through, however, trainee understanding must be ensured before continuing.

D.6. Monitor the Trainee's Performance

Trainee performance should be monitored during both training and operations. Qualification does not end with the first successful completion of the task. It is an ongoing process that ends only when successful task completion can be met consistently.

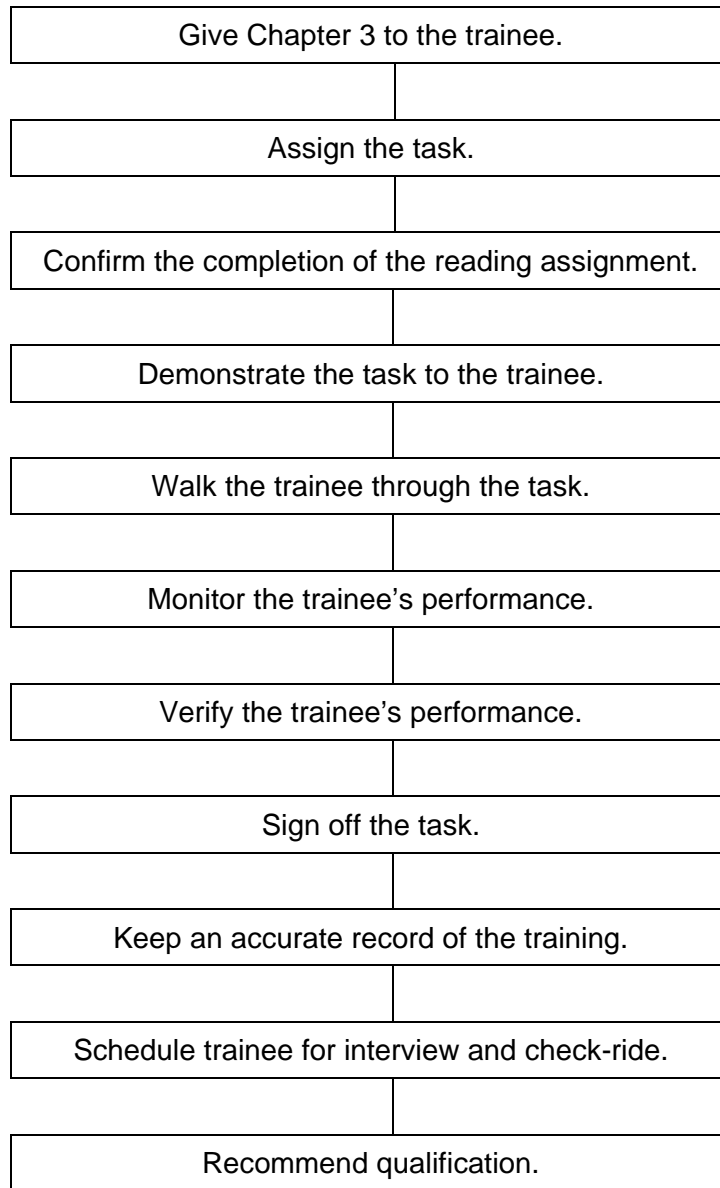


Figure 0-1
Procedure for Guiding Trainees



D.7. Verify the Trainee's Performance

Verify that the trainee's performance meets the standard. This includes two parts:

- The trainee must be able to perform the task subject to established conditions and standards delineated for the task.
- The trainee must be able to perform the task with no assistance.

The trainee is expected to perform each task on a consistent basis in accordance with the established standards and conditions.

D.8. Sign Off the Task

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.

D.9. Keep an Accurate Record of the Training

A record of the training accomplished should be kept using the Task Accomplishment Record provided in *Chapter 1* of each part of this manual. Upon beginning the training program, the Task Accomplishment Record shall be removed from the chapter. The instructor is responsible for keeping the trainee's Task Accomplishment Record and the qualification tasks correct and current at all times.

Upon completion, or during the qualification process, the qualification tasks should be transferred to the training record to the individual within the agency's files, and in the an Electronic Training and Qualification (E-TAQ) when and if it becomes available

NOTE 

NASBLA will work towards establishing a national database that Program Managers can access and input training data, and also so that Captains of the Port, Emergency Operations Centers, and FEMA can access for immediate identification of qualified personnel in their region and throughout the country.

NOTE 

As a quick reference of the trainee's progress, the instructor should maintain the task accomplishment record located in *Chapter 2* of each qualification part. This is accomplished by entering the start date as each task is assigned and then initialing and entering the completion date as each task is completed.

D.10. Schedule Trainee for Interview and Check-Ride

Inform the Program Manager when all tasks in this manual are completed. When the trainee has completed all of the required tasks for the position and boat type, the qualification process is complete. If established, the instructor should inform the Boat Crew Examination Board and schedule the trainee for an interview and certification check-ride.

D.11. Recommend Certification

When the Boat Operator Examination Board is satisfied with the trainee's performance and abilities, they may recommend to the Program Manager that the trainee be certified.



Section E. Trainee Guidance

Introduction

It is the trainee's responsibility to proficiently perform the tasks in accordance with the established standards. The tasks that parts of this Manual represent the skills required to perform in the capacity of a Boat Crew Member. There are four parts to this learning process:

Read the assignments and ask questions.
Pay attention during demonstrations.
Complete walk-through with instructor.
Practice the skill.

E.1. Read the Assignments and Ask Questions

First, the trainee must become familiar with each task. All reading assignments must be read carefully. The trainee should seek guidance from the instructor to clear up any uncertainties.

E.2. Pay Attention During Demonstrations

Second, while the task is being demonstrated by the instructor, the trainee must pay close attention.

E.3. Complete Walk-Through with Instructor

Third, the trainee will complete the task the first time with the instructor walking the trainee through the steps.

E.4. Practice the Skill

Fourth, the trainee must practice the skill for consistent success at the task. The instructor will not sign off any task as complete until the trainee can consistently and correctly complete the task unsupervised.

E.5. Qualification Process

Once all required tasks are completed, the qualification process can begin.



Chapter 2: Coxswain/Boat Operator for Search and Rescue Qualification

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 a Coast Guard Coxswain/Boat Operator/Boat Operator.

NOTE

This Manual 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	Task Accomplishment Record for Coxswain/Boat Operator	13
2	Chapter 3: Coxswain/Boat Operator for Search and Rescue Qualification Tasks	18
3	Chapter 4: Coxswain/Boat Operator for Search and Rescue Trainee Study Guide	99



Task Accomplishment Record for Coxswain/Boat Operator

NOTE *✍*

Instructor should remove this chapter and place it in the trainee's training record/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
BOSAR-01-01-ANY			
BOSAR-01-02-ANY			
BOSAR-02-01-TYPE			
BOSAR-02-02-TYPE			
BOSAR-02-03-TYPE			
BOSAR-02-04-TYPE			
BOSAR-02-05-TYPE			
BOSAR-02-06-ANY			
BOSAR-03-01-ANY			
BOSAR-03-02-ANY			
BOSAR-03-03-TYPE			
BOSAR-03-04-TYPE			
BOSAR-03-05-TYPE			
BOSAR-03-06-TYPE			
BOSAR-03-07-TYPE			



NASBLA BOAT OPERATIONS AND TRAINING (BOAT) MANUAL
 Volume III: Boat Operator for Search and Rescue Qualification
 Chapter 2: Boat Operator for Search and Rescue Task Accomplishment Record

Task	Date Started	Date Completed	Instructor's Initials
BOSAR-03-08-TYPE			
BOSAR-03-09-TYPE			
BOSAR-03-10-TYPE			
BOSAR-03-11-TYPE			
BOSAR-03-12-TYPE			
BOSAR-03-13-TYPE			
BOSAR-03-14-TYPE			
BOSAR-03-15-TYPE			
BOSAR-03-16-TYPE			
BOSAR-03-17-TYPE			
BOSAR-03-18-TYPE			
BOSAR-03-19-TYPE			
BOSAR-03-20-TYPE			
BOSAR-03-21-TYPE			
BOSAR-03-22-TYPE			
BOSAR-04-01-ANY			
BOSAR-05-01-ANY			
BOSAR-05-02-ANY			
BOSAR-05-03-ANY			
BOSAR-05-04-ANY			
BOSAR-05-05-TYPE			
BOSAR-05-06-TYPE			
BOSAR-05-07-TYPE			
BOSAR-05-08-TYPE			



Task	Date Started	Date Completed	Instructor's Initials
BOSAR-05-09-TYPE			



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 Chapter 2: Boat Operator for Search and Rescue Task Accomplishment Record

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



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



Chapter 3: Coxswain/Boat Operator for Search and Rescue Qualification Tasks

Introduction

The following are the instructions for this chapter:

The purpose of this chapter is to provide guidance on the trainee's progress through the qualification tasks.

The instructor should present the tasks to the trainee in a logical order using the instructions provided in *Part 1*.

Tasks should be signed, dated, and placed in the trainee's training record/E-Training system when the instructor is satisfied that the trainee can consistently perform a task in accordance with all standards and conditions.

Prerequisites

A prospective Coxswain/Boat Operator must:

Be a certified Boat Crew Member.

In this chapter

This chapter contains the following sections:

Section	Title	See Page
A	Crew Efficiency Factors and Team Coordination	19
B	Boat Characteristics and Stability	21
C	Boat Handling	28
D	Rules of the Road	50
E	Boat Piloting and Navigation	51
F	Search and Rescue (SAR)	67
G	Rescue and Assistance	75
H	Towing and Salvage	89



Section A. Crew Efficiency Factors and Team Coordination

Introduction

The following are objectives of Division One:

- Demonstrate** knowledge of the crew fatigue standards.
- Attend** team coordination training (TCT) training.

In this section

This section contains the following tasks:

Task Number	Task	See Page
BOSAR-01-01-ANY	Crew Fatigue Standards	19
BOSAR-01-02-ANY	Team Coordination Training (TCT)	20

TASK BOSAR-01-01-ANY: Crew Fatigue Standards

References

- a. *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series)
- b. *U.S. Coast Guard Addendum to the United States National Search and Rescue Supplement (NSS) to the International Aeronautical and Maritime Search and Rescue Manual*, COMDTINST M16130.2 (series)
- c. *U. S. Coast Guard Boat Operations and Training (BOAT) Manual Vol I*, COMDTINST M16114.32 (series)

Conditions

Task should be performed at any time, at facilities available to the unit.

Standards

Trainee must demonstrate knowledge of each task to the minimum standards included in each performance step.

Performance Criteria	Completed (Initials)
4. State the crew fatigue guidelines as listed in the above references.	

Instructor _____

Date _____

Comments



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 Chapter 3: Boat Operator for Search and Rescue Qualification Tasks

TASK BOSAR-01-02-ANY: Team Coordination Training (TCT)

Reference a. *Team Coordination Training*, COMDTINST M16114.5 (series)

Conditions Task should be performed at any time, at facilities available to the unit.

Standards Trainee must attend the training as prescribed in the reference above.

NOTE *RS*

Attendance at TCT must be recorded in the trainee's Training record/E-Training system.

Performance Criteria	Completed (Initials)
5. Date initial training completed: _____	

Instructor _____ **Date** _____

Comments



Section B. Boat Characteristics and Stability

Introduction



The following are objectives of Division Two:

- Identify** and **describe** the structural features of a Coast Guard boat.
 - Locate** and **explain** the use of all equipment and accessories.
 - Perform** those tasks necessary for preparing and getting the boat underway.
-

In this section

This section contains the following tasks:



Task Number	Task	See Page
BOSAR-02-01-TYPE	State Basic Construction and Design Features of the Boat	22
BOSAR-02-02-TYPE	State the Characteristics of, and Set Watertight Integrity Aboard the Boat	23
BOSAR-02-03-TYPE	Locate and State the Purpose of Deck Equipment and Fittings Onboard the Boat	24
BOSAR-02-04-TYPE	Locate Installed Engineering and Propulsion Equipment and Fittings Onboard the Boat	25
BOSAR-02-05-TYPE	Locate Installed Electrical and Electronic Equipment and Fittings Onboard the Boat	26
BOSAR-02-06-ANY	Recognize Warning Signs of an Unstable Boat Before Boarding	27



TASK BOSAR-02-01-TYPE: State Basic Construction and Design Features of the Boat

References

- a. *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series)
- b. *Specific Boat Type Operator's Handbook*

Conditions

Task should be performed at any time onboard each boat type. Trainee must accomplish the task without prompting or use of a reference.

Standards

In response to the instructor, the trainee must, without error, point out and state the basic construction features of the boat as outlined in the steps listed below.



Performance Criteria	Completed (Initials)	Boat Type
1. State hull construction material.		
2. State interval between the hull frames.		
3. State cabin/superstructure construction material.		
4. Point to the highest fixed point of the boat and state its height in feet and inches.		
5. Point to the highest unfixed point of the boat and state its height in feet and inches.		
6. State length of the boat in feet and inches.		
7. State beam of the boat at its widest point in feet and inches.		
8. State amount of freeboard at the bow in feet and inches.		
9. State amount of freeboard at the lowest point in feet and inches.		
10. State full load displacement of the boat in pounds.		
11. State draft of the boat in feet and inches.		
12. State location of deepest draft.		

Instructor _____

Date _____

Comments



TASK BOSAR-02-02-TYPE: State the Characteristics of, and Set Watertight Integrity Aboard the Boat

References

- a. *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series)
- b. *Specific Boat Type Operator's Handbook*

Conditions

Task should be performed at any time onboard each boat type. Trainee must accomplish the task without prompting or use of a reference.

Standards



In response to the instructor, the trainee must, without error, point out and state the basic watertight characteristics of the boat and secure the boat's watertight fittings as outlined in the steps listed below.

Performance Criteria	Completed (Initials)	Boat Type
1. State number of watertight compartments.		
2. Locate all watertight hatches.		
3. Locate all scuttles and state which can be secured.		
4. Locate all through hull drain fittings.		
5. Locate all vents and state which can be secured.		
6. Set and check watertight integrity throughout the boat.		

Instructor

Date

Comments



TASK BOSAR-02-03-TYPE: Locate and State the Purpose of Deck Equipment and Fittings Onboard the Boat

References

- a. *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series)
- b. *Specific Boat Type Operator's Handbook*

Conditions

Task should be performed using a simple line diagram of the unit's boats and the boat's checkoff or outfit list. Trainee should list the location of each piece of equipment on the diagram. Trainee must accomplish the task without prompting or use of a reference.

Standards



In response to the instructor, the trainee must, without error, locate and state the purpose and use of installed equipment and fittings as outlined in the steps listed below.

Performance Criteria		Completed (Initials)	Boat Type
1. Locate the following applicable equipment and explain use and purpose:			
a. Anchors b. Anchor line reel and line c. Cap cover with hook d. Bull nose e. Key wrench f. Dry chemical extinguisher g. Bilge inspection port h. Battle lantern i. Marine toilet j. Clock k. Bell l. CO ₂ fire extinguisher m. Emergency tiller n. Stokes litter o. Air horn p. Wheel q. Chart table r. Portable pump s. Windshield wiper speed control	t. Sluice valve u. T-handle wrench v. EPIRB w. Freshwater jug/tank x. EMT kit y. First-aid kit z. Scuttle aa. Vents bb. 4- or 6-man life raft cc. Safety belt pad eyes dd. Air horn pull handle ee. Sink ff. Sink drain valve gg. Compass hh. Towline and reel ii. Tow/taff rail jj. Main fire valve kk. Towing bitt ll. Leadline mm. Gun mount(s)		

Instructor

Date

Comments



TASK BOSAR-02-04-TYPE: Locate Installed Engineering and Propulsion Equipment and Fittings Onboard the Boat



Reference

a. *Specific Boat Type Operator's Handbook*

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



In response to the instructor, the trainee must, without error, point out engineering and propulsion system components as outlined in the steps listed below.

Performance Criteria		Completed (Initials)	Boat Type
1. Locate the following equipment:			
a. Fuel tank sounding tubes b. Fuel tank fill pipe c. Freshwater fill pipe d. Installed Halon/CO ₂ fire system e. Power take-off f. Rudder arm g. Engine controls h. Tachometers i. Hot water supply lines j. Pressurized hydraulic fluid hose k. Rudder stock	l. Fuel tank vent pipe m. Fuel sounding rod n. Freshwater tank o. Sea chest, sea suction cutoff valves p. Air compressor q. Air compressor bleeder valve r. Engine neutral throttles s. Windshield wiper bottle t. Hydraulic steering pump u. Hydraulic ram and pin v. Steering cable		

Instructor

Date

Comments



TASK BOSAR-02-05-TYPE: Locate Installed Electrical and Electronic Equipment and Fittings Onboard the Boat



Reference

a. *Specific Boat Type Operator's Handbook*

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



In response to the instructor, the trainee must, without error, point out electrical and electronic system components as outlined in the steps listed below.

Performance Criteria		Completed (Initials)	Boat Type
1. Locate the following equipment:			
a. Underway heater switch b. Shore power compartment heater c. DC circuit breaker panel d. Alarm cut out switch e. Amp meter f. SSB-HF transceiver g. SSB-HF transceiver antenna coupler h. VHF-FM radio converter i. SSB-HF transceiver antenna j. VHF-FM radio k. GPS/DGPS antennas l. Radar set m. Radar antenna n. Fathometer/Depth finder o. Sidelights p. Searchlight switch q. Anchor light r. Towing lights (2) s. Stern light t. All interior lights u. Auxiliary machinery fan v. Battery charger	w. Underway compartment heater x. Shore-tie receptacle y. AC power panel z. Volt meter aa. GPS/DGPS receiver bb. VHF-FM direction finder receiver cc. VHF-FM radio antenna dd. VHF-FM direction finder ee. Radio and loudhailer speakers ff. Loudhailer gg. Radar power supply hh. Electric horn button ii. Hand-held portable search light jj. Masthead lights (2) kk. Deck floodlight ll. Law enforcement light switch mm. Autopilot nn. Electronic compass oo. Hot starts pp. Chart Plotter		

Instructor _____

Date _____

Comments



TASK BOSAR-02-06-ANY: Recognize Warning Signs of an Unstable Boat Before Boarding

Reference

a. *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series)

Conditions

Task should be performed underway observing other vessels in various situations (i.e. towing, trawling, etc.) and weather conditions.

Standards



The observer must note:

- Listing
- Setting high or low in the water
- Trimming bow up or down
- Wind/sea conditions
- Your boat's reaction to the sea compared with that of the distressed boat

Performance Criteria	Completed (Initials)
1. Determine if other boat is listing.	_____
2. Determine if other boat is riding high or low in the water.	_____
3. Determine if other boat is down by the bow or the stern.	_____
4. Determine wind and sea conditions.	_____
5. Compare own boat's righting moment with other vessels in the area.	_____
6. Determine if other boat is damaged.	_____
7. State the causes and effects of the following: <ul style="list-style-type: none"> a. Free surface effect b. Downflooding c. Topside icing 	_____

Instructor _____

Date _____

Comments

Section C. Boat Handling

Introduction

The following are objectives of Division Three:

- Define** and **state** the principal forces that effect boat handling.
- Handle** a boat proficiently during various common maneuvers.
- State** the different safety aspects involved in boat handling.

In this section

This section contains the following tasks:



Task Number	Task	See Page
BOSAR-03-01-ANY	State the Forces that Affect Boat Handling	30
BOSAR-03-02-ANY	State the Basic Principles of Boat Handling	31
BOSAR-03-03-TYPE	State the Operational Characteristics and Limitations of the Boat	32
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BOSAR-03-05-TYPE	Energize the Electrical and Electronic Systems on the Boat	35
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TASK BOSAR-03-01-ANY: State the Forces that Affect Boat Handling

References

- a. *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series)
- b. Chapman Piloting
- c. Knight's Modern Seamanship

Conditions

Task should be performed at any time, at facilities available to the unit. Trainee must accomplish the task without prompting or use of a reference.

Standards



In response to the instructor, the trainee must, without error, state the basic forces that affect boat handling as outlined in the steps listed below.

Performance Criteria	Completed (Initials)
1. State the two types of stability.	
2. State the meaning of the term "force of buoyancy".	
3. State the meaning of the term "righting moment".	
4. State the meaning of the word "set" as related to current and drift.	
5. State the meaning of the word "drift" as related to current.	
6. State the effect of an ebb tide on a bar or entrance.	
7. State the effect of running with a current.	
8. State the effect of running against a current.	
9. State the effects of leeway.	
10. State the effects of wind blowing out an entrance.	
11. State the causes of cavitation.	
12. State the effects of slip.	
13. State the effects of dynamic propeller thrust.	
14. State the effects of "unequal blade thrust".	
15. State the effects of "side force".	

Instructor _____

Date _____


Comments



TASK BOSAR-03-02-ANY: **State the Basic Principles of Boat Handling** 

References a. *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series)
 b. Chapman Piloting

Conditions Task should be performed at any time, at facilities available to the unit. Steps 1 through 5 are for single screw boats and steps 6 through 8 are for twin screw boats. Trainee must accomplish the task without prompting or use of a reference.

Standards  In response to the instructor, the trainee must, without error, state the basic principles of boat handling as outlined in the steps listed below.

Performance Criteria	Completed (Initials)
1. State the reaction of the boat with sternway on and the rudder amidships.	
2. State the reaction of the boat with sternway on and the rudder left.	
3. State the reaction of the boat with headway on and the rudder left.	
4. State the reaction of the boat with the headway on and the rudder right.	
5. State the reaction of the boat when commencing forward motion from no way-on.	
6. State the reaction of a twin screw boat when the port screw is placed ahead and the starboard screw in reverse.	
7. State the reaction of a twin screw boat with the port screw ahead, the starboard screw in reverse, and the rudders to the right.	
8. State the reaction of a twin screw boat with the port screw ahead, the starboard screw in reverse, and the rudders to the left.	

Instructor _____ **Date** _____
Comments _____



TASK BOSAR-03-03-TYPE: State the Operational Characteristics and Limitations of the Boat

Reference

a. *Specific Boat Type Operator's Handbook*

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



In response to the instructor, the trainee must, without error, state the basic principles of boat handling as outlined in the steps listed below.

Performance Criteria	Completed (Initials)	Boat Type
1. State the maximum speed of the boat in knots.		
2. State the most economical cruising RPMs.		
3. State the maximum range of the boat at cruising RPMs in nautical miles.		
4. State the minimum crew size of the boat.		
5. State the maximum endurance of the boat at cruising RPMs.		
6. State the maximum number of people that can be carried on the boat.		
7. State the maximum following seas in which the boat may operate.		
8. State the maximum wind speed in which the boat may operate.		
9. State the maximum size boat, in gross tons, that the boat may tow.		
10. State the maximum size boat, in feet, that the boat may tow.		
11. State whether the boat may be used to break ice, and if so, how thick.		
12. State whether or not the boat may be operated in breaking surf or bar conditions.		
13. State the maximum size surf the boat can take abeam without capsizing.		
14. State at what RPMs and under what conditions the boat will experience dynamic instability or "caught on the hard chine". [MLB or SPC (surf) only]		
15. State the equipment that must be onboard and/or operative before the boat can get underway.		

Instructor

Date

Comments



TASK BOSAR-03-04-TYPE: Locate and State the Characteristics of the Components and Accessories of the Boat's Propulsion System



Reference

a. *Specific Boat Type Operator's Handbook*

Conditions

Task should be performed at any time onboard each boat type. Trainee must accomplish the task without prompting or use of a reference.

Standards



In response to the instructor, the trainee must, without error, point out and state the characteristics of the boat's propulsion system components as outlined in the steps listed below.

Performance Criteria	Completed (Initials)	Boat Type
1. State the model number of the engine(s).		
2. State the horsepower of each engine.		
3. State the direction of the shaft rotation for each engine.		
4. State the maximum shaft RPMs for each engine.		
5. Locate the gauges and state the normal readings for each engine at idle and cruising speeds: <ul style="list-style-type: none"> a. Water temperature in ° Fahrenheit. b. Lube oil pressure in pounds. c. Marine gear oil pressure in pounds. 		
6. Locate and state the purpose of the emergency engine stop control.		
7. State the type of fuel used in the engine(s).		
8. Locate and state the maximum capacity of the fuel tank(s) in gallons.		
9. State the usable capacity of the fuel tank(s) as a percentage of maximum.		
10. State the capacity of the lube oil system in quarts.		
11. Locate and state the type of cooling system used on the engine(s).		
12. Locate and state the reason why the simplex/duplex strainer(s) must be cleaned one at a time.		
13. Locate and state the purpose of the engine control module on the 47 FT MLB.		
14. State the freshwater capacity of each engine in gallons.		
15. State the purpose of the engine alarm system.		
16. Locate and state the type and model number of the marine gear used on the boat.		
17. State the ratio of the forward gear.		
18. State the ratio of the reverse gear.		



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Performance Criteria	Completed (Initials)	Boat Type
19. State the diameter of the propellers in inches.		
20. State the number of blades on the propeller(s).		
21. Locate the fire pump and state the gallons per minute that it can deliver.		
22. State the maximum engine RPMs allowable with the fire pump engaged.		
23. Locate and state the purpose of the installed bilge pump(s).		

Instructor

Date

Comments



TASK BOSAR-03-05-TYPE: Energize the Electrical and Electronic Systems on the Boat

References

- a. *Electrical/Electronic Operator's Manuals*
- b. *Specific Boat Type Operator's Handbook*

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 energize the boat's electrical and electronic systems following the steps listed below.

Performance Criteria	Completed (Initials)	Boat Type
1. Locate AC shore-tie panel and de-energize the following power switches: <ul style="list-style-type: none"> a. Battery charger b. Shore-tie power breaker c. Electronic test receptacle d. Engine heaters (hot starts) e. Electric space heaters/HVAC f. Engine room receptacle 		
2. Secure shore-tie power pierside.		
3. Ensure all power switches are in the off position, both at the power panels and on the individual electrical and electronic units.		
4. Locate and energize the following circuit breaker panels and power switches if applicable to boat type: <ul style="list-style-type: none"> a. Main breakers b. General lighting c. Starter motors d. Engine alarm system 		
5. Notify Coxswain/Boat Operator/Engineer that the power switches listed above have been energized so that the main engines can be started.		
6. Energize the following power switches, as applicable: <ul style="list-style-type: none"> a. Engine space lights b. Blue lights c. Towing lights d. Siren/loudhailer e. Sidelights f. Searchlights g. Individual electronics equipment h. Compass and all gauge lights i. Cabin heaters/HVAC j. Other interior lights k. Normal running lights 		
7. Locate and energize the following power switches on the DC power panel: <ul style="list-style-type: none"> a. Loudhailer b. Dock lights c. All radios 		
8. Energize and check power switches at the individual electronic and electric units for proper operation.		

Instructor _____

Date _____

Comments _____



TASK BOSAR-03-06-TYPE: Conduct a Pre-Start Checkoff for the Boat

Reference	a. <i>Specific Boat Type Operator's Handbook</i>
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	Task steps must be completed, without error and in sequential order, using the steps applicable to the boat type.



Performance Criteria	Completed (Initials)	Boat Type
1. Secure shore power at pierside.		
2. Secure shore power at the boat's power panel.		
3. Disconnect shore-tie cable.		
4. Ensure that all electrical power switches are in the off position both at the power panel and on individual units.		
5. Energize main breaker at the circuit breaker panel.		
6. Energize general lighting at the circuit breaker panel.		
7. Check bilges for excessive fuel or water.		
8. Locate dipsticks and check engine and gear oil levels.		
9. Check engine coolant level.		
10. Open sea suction valves and check sea strainers for cleanliness.		
11. Check and open fuel line valves and return valves.		
12. Sound fuel tanks using the sounding rod.		
13. Check drain valve on the primary strainer of filter for water.		
14. Check all belts for proper tension.		
15. Check air intake on turbo chargers for cleanliness.		
16. Ensure engine room is free of all loose gear.		

Instructor _____ **Date** _____

Comments



TASK BOSAR-03-07-TYPE: Start the Boat



Reference

a. *Specific Boat Type Operator's Handbook*

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, without error, start the engine(s) on the applicable boat type in accordance with the steps listed below.

Performance Criteria	Completed (Initials)	Boat Type
1. Conduct pre-start checkoff, ensuring that main breaker and general lighting systems are energized.		
2. Place throttles in neutral position.		
3. Throw switches to energize starting systems.		
4. Push down engine shutdown cables (T Handles).		
5. Depress starter button(s).		
6. Check for overboard discharge.		
7. Wait thirty seconds and repeat the procedure in steps 4 and 5 if engine does not start.		
8. State likely causes for an engine not starting.		
9. State recommended engine temperature readings before applying a load (engaging the engine).		
10. Check correct oil and fuel pressures and temperature, while engines are warm.		
11. Check for external water or oil leaks, or any other abnormal conditions.		

Instructor

Date

Comments



TASK BOSAR-03-08-TYPE: Conduct a Pre-Underway Checkoff for the Boat

References

- a. *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series)
- b. *Specific Boat Type Operator's Handbook*

Conditions

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

Standards



Trainee must, without error, conduct a pre-underway checkoff for the boat. Procedure should be accomplished in accordance with the steps listed below applicable to the boat.


Performance Criteria	Completed (Initials)	Boat Type
1. Conduct daily boat checkoff using the checkoff list provided.		
2. Brief the crew, fully covering the following items: <ul style="list-style-type: none"> a. Purpose of the mission b. Any special circumstances concerning the mission c. Working radio frequency to be used for the mission d. Plan of action at destination e. Route to be taken to destination f. Expected weather and sea conditions g. Risk assessment with crew using green-amber-red (GAR)/severity-probability-exposure (SPE) or similar applicable models 		
3. Set watertight integrity.		
4. Secure boat for sea (no loose gear).		
5. Ensure all equipment necessary to the mission, including the complete boat's outfit, is onboard (using daily boat checkoff).		
6. Ensure crewmembers are wearing required survival gear.		
7. Receive engineering report from the boat's Engineer, including the following: <ul style="list-style-type: none"> a. Fuel onboard b. Oil levels – engine and marine gears c. Cooling water level d. Hydraulic steering oil e. Sea suction open f. Engine and marine gear oil pressure g. Electrical and electronic systems status h. Navigational lights (night or reduced visibility) status i. Shore-tie status j. Overboard discharge 		
8. Test the following electronic equipment: <ul style="list-style-type: none"> a. Radio b. Depth sounder c. SINS, Radar/Chart Plotter d. All navigation systems 		
9. Test engine controls for both forward and astern propulsion; note the reaction for both directions.		

Instructor _____

Date _____


Comments _____



TASK BOSAR-03-10-TYPE: Conduct a Normal Cruising Checkoff 

Reference a. *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series)

Conditions Task should be performed at any time onboard the unit's boats while pierside. The boat's complete outfit and daily checklist is required. Trainee must accomplish the task without prompting or use of a reference, other than the daily boat checklist.

Standards  Checkoff must be completed using the unit's daily boat checkoff sheet. Trainee should ensure that all boat equipment is in its proper place, and in serviceable condition. At the completion of the task, the boat should be ready for operations.

Performance Criteria	Completed (Initials)	Boat Type
1. Properly post and brief lookouts.		
2. Stow all boat equipment properly.		
3. Check propulsion machinery and associated instruments.		
4. Check all electronic gear.		
5. Note and correct all discrepancies.		

Instructor _____ **Date** _____

Comments



TASK BOSAR-03-11-TYPE: Secure the Boat After Operations

Reference	a. <i>Specific Boat Type Operator's Handbook</i>
Conditions	Task should be performed while pierside after the boat has been operated for a minimum of 45 minutes. Trainee will conduct all of the procedures necessary to secure the boat after operations. Trainee must accomplish the task without prompting or use of a reference.
Standards	Trainee must, without error, secure the boat after operations. Task must be accomplished in the order of presentation.



Performance Criteria	Completed (Initials)	Boat Type
1. Allow engines to idle for 4 to 5 minutes.		
2. Place all power switches in the off position, both at the individual electrical and electronic units and at the power panels.		
3. Shut down engine(s) by pulling up on the engine stops or securing the ignition system.		
4. Secure main breaker and starter motor switches.		
5. Reconnect shore-tie and energize pierside power.		
6. Energize shore-tie panel main power breaker and place battery charger and engine heater (hot starts) power switches in the on position.		
7. Conduct the following engineering checks: <ul style="list-style-type: none"> a. Sound and record fuel tanks. b. Top off fuel tank(s). c. Check oil levels in the engines, marine gears, and add if necessary. d. Check hydraulic steering oil and add if necessary. e. Pump bilges using shore-side equipment and wipe down engines. f. Make a visual check of all hoses, wiring, belts, and other items subject to wear. 		
8. Stow all gear in accordance with the boat's daily checkoff list.		
9. Activate bilge alarm systems.		
10. Set watertight integrity.		
11. Secure all doors and windows.		
12. Wash boat down with freshwater.		

Instructor _____ **Date** _____

Comments _____



TASK BOSAR-03-12-TYPE: Get the Boat Away from a Pier

References

- a. *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series)
- b. Chapman Piloting

Conditions

Task should be performed at any time, onboard the unit's boats. Wind and current must equal a speed of at least 15 KTS and be setting the boat against the pier. The boat must be sitting port side to the pier or mooring object. All mooring lines must be attached before task is begun. Trainee must accomplish the task without prompting or use of a reference.

Standards



Trainee must perform the task without casualty to personnel or boat in accordance with the steps listed below. Task must be accomplished within five minutes of beginning the evolution.

Performance Criteria	Completed (Initials)	Boat Type
1. State the expected effects of the wind and current on the movement of the boat described.		
2. Brief crew on the procedure to be used and their duties.		
3. Take in all mooring lines except the bow spring line.		
4. Clear stern of the boat by going ahead slowly and springing the stern out.		
5. Take in bow spring line when stern is well clear of the pier.		
6. Back boat down until clear with room to move ahead.		

Instructor _____

Date _____

Comments



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TASK BOSAR-03-13-TYPE: Maneuver the Boat in Tight Quarters

References

- a. *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series)
- b. Chapman Piloting

Conditions

Task should be performed at any time onboard the unit's boats, in any type of weather conditions. Task must be accomplished within the confines of a slip or other area where maneuverability is limited. At the beginning of the task, the boat must be facing into the slip. Trainee will bring the boat completely about and out of the slip. Trainee must accomplish the task without prompting or use of a reference.

Standards



Trainee must turn the boat 180° within the confines of the slip or other limited area in accordance with the steps listed below. Trainee must perform the task without casualty to personnel or boat.

Performance Criteria	Completed (Initials)	Boat Type
1. Describe expected effects of the wind and current during maneuvering of the boat.		
2. Brief crew on procedure to be used and their duties.		
3. Maneuver away from pier and moved slowly ahead.		
4. Engage engine(s) and apply rudder in order to bring the stern around.		
5. Back boat as far as possible before moving ahead.		
6. Shift rudder and move boat ahead, bringing the boat out of the confined area.		

Instructor

Date


Comments



TASK BOSAR-03-14-TYPE: Come About in a Narrow Channel 

Reference a. *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series)

Conditions Task will be performed onboard each boat type at any time, in any type of weather conditions. Task must be accomplished within the confines of a narrow channel, river, or harbor entrance with limited maneuverability. Trainee must accomplish the task without prompting or use of a reference.

Standards  Trainee must turn the boat 180° within the confines of a narrow channel, river, or harbor entrance in accordance with the steps listed below. Trainee must perform the task without casualty to personnel or boat.

Performance Criteria	Completed (Initials)	Boat Type
1. Brief crew on procedure to be used and their duties.		
2. Maintain a position in the center of the channel for at least three minutes.		
3. Bring boat around in the channel from an into the current position to a with the current position.		
4. Bring boat around in the channel from a with the current position to an into the current position.		

Instructor _____ **Date** _____

Comments



TASK BOSAR-03-15-TYPE: Operate the Boat and Apply its Handling Characteristics in a Following Sea

References

- a. *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series)
- b. *Specific Boat Type Operator's Handbook*, COMDTINST M16114 (series)

Conditions

Recommendation: Task will be performed while underway during daylight, in 10 to 30 KT winds, and following seas of not greater than 4 FT.

Trainee must accomplish the task without prompting or use of a reference.

NOTE

Operators, supervisors, trainers and trainees must ensure that this exercise is not conducted in conditions that exceed the operational limitations of the platform.

Standards



Trainee must perform the task without casualty to personnel or boat in accordance with the steps listed below.

Performance Criteria	Completed (Initials)	Boat Type
1. Describe expected effects of a following sea upon the handling characteristics of the boat.		
2. State operational limitations of the boat pertaining to the following conditions: <ul style="list-style-type: none"> a. Following seas in open water b. Following seas in surf or bar conditions c. Towing in following seas d. Maximum wind 		
3. Brief crew on procedure to be used and their duties before beginning operations.		
4. Keep boat's stern square to the seas to prevent broaching.		
5. Steer into any tendency of the stern to slip sideways.		
6. Ride on the back of the swells and avoid allowing the boat to ride on the face of a swell.		
7. Slow down, when necessary, to allow overtaking seas to pass beneath the boat.		

Instructor _____

Date _____

Comments



TASK BOSAR-03-16-TYPE: Maneuver in Heavy Weather

Reference	a. <i>Boat Crew Seamanship Manual</i> , COMDTINST M16114.5 (series)
Conditions	Task should be performed during heavy weather, onboard the unit's boats. Trainee must accomplish task without prompting or use of a reference.
Standards	Trainee must demonstrate knowledge of and perform the task to the minimum standards in accordance with the steps listed below.

NOTE

Operators, supervisors, trainers and trainees must ensure that this exercise is not conducted in conditions that exceed the operational limitations of the platform. ONLY CONDUCT THIS TASK IF THE OPERATOR HAS BEEN TRAINED APPROPRIATELY AND ONLY IF THE PLATFORM BEING OPERATED IS BEING DONE SO WITHIN ITS OPERATIONAL LIMITS.

Performance Criteria	Completed (Initials)	Boat Type
1. Demonstrate knowledge of boat motions to maintain stability.		
2. Approach seas at correct angles to keep propellers and rudders working.		
3. Demonstrate the ability to keep the boat in the water to prevent injury to the crew and avoid damage to the boat.		

Instructor _____ **Date** _____

Comments

TASK BOSAR-03-17-TYPE: Maneuver in Rivers

Reference	a. <i>Boat Crew Seamanship Manual</i> , COMDTINST M16114.5 (series)
Conditions	Task should be performed at any time, on a river within the unit's area of responsibility (AOR). Trainee must accomplish task without prompting or use of a reference.
Standards	Trainee must perform the task to the minimum standards in accordance with the steps listed below.

Performance Criteria	Completed (Initials)	Boat Type
1. Prevent sheering by controlling bank cushion and suction.		
2. Demonstrate "Hug the Point" maneuver.		
3. Demonstrate "Stay in the Bend" maneuver.		
4. Demonstrate "Proceed on the Bend Side, Middle of the Channel" maneuver.		

Instructor _____ **Date** _____



Comments _____

TASK BOSAR-03-18-TYPE: Identify Heavy Weather Terms



Reference

a. *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series), Heavy Weather Addendum

Conditions

Task should be performed at any time, at facilities available to the unit.

Standards

Trainee must demonstrate knowledge of and perform the task to the minimum standards in accordance with the steps listed below.



Performance Criteria	Completed (Initials)	Boat Type
1. State definition of surf.		
2. Discuss the effects of wind on waves.		
3. Determine wave height using height of eye on freeboard.		
4. Determine wave height by comparing with floating structures.		
5. Determine wave height by comparing with fixed structures.		
6. Determine wave height using a depth sounder.		
7. Identify the types of breaking waves.		
8. Identify windows, wave saddles, close outs, and the high and low side of a wave.		

Instructor _____

Date _____

Comments _____

TASK BOSAR-03-19-TYPE: Correct for Hard Chine Lock-Up



References

a. *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series)

Conditions

Task should be performed during moderate to heavy weather, onboard the unit's boats. Trainee must accomplish task without prompting or use of a reference.

Standards

In response to the instructor, the trainee must, without error, explain and demonstrate the steps to be taken if hard chine lock-up occurs.





Performance Criteria	Completed (Initials)	Boat Type
1. State the sea conditions that will put the 47 FT MLB in hard chine lock-up.		
2. State the corrective action for hard chine lock-up.		
3. State action to be taken to prevent hard chine lock-up.		
4. Inform crew of possibility of hard chine lock-up.		


Instructor _____ **Date** _____

Comments _____

TASK BOSAR-03-20-TYPE: Moor the Boat 

Reference a. *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series)

Conditions Task should be performed at any time, onboard the unit's boats. Wind and current must equal a speed of at least 15 KTS and be setting the boat away from the pier. Trainee must accomplish the task without prompting or use of a reference.

Standards  Trainee must perform the task without casualty to personnel or boat in accordance with the steps listed below. Mooring must be accomplished cleanly without extended maneuvering for position correction within five minutes of beginning the evolution.

Performance Criteria	Completed (Initials)	Boat Type
1. State expected effects of the wind and current on the mooring of the boat.		
2. Brief crew on procedure to be used and their duties.		
3. Instruct one crewmember to stand by on the bow with a fender.		
4. Approach pier slowly on an angle.		
5. Ensure crewmember secures the bow spring line when the bow is alongside the intended mooring point on the pier.		
6. Apply full rudder away from the pier, spring or pivot stern toward the pier.		
7. Secure stern line, bowline, and aft spring line.		

Instructor _____ **Date** _____

Comments _____



TASK BOSAR-03-21-TYPE: Anchor the Boat

Reference

a. *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series)

Conditions

Task should be performed at any time, onboard the unit's boats. Instructor should provide the trainee with a general location for anchorage. Trainee should select the specific spot for placing the anchor. Trainee must accomplish the task without prompting or use of a reference.

Standards



Trainee must perform the task without casualty to personnel or boat in accordance with the steps listed below. Boat must be anchored with room to swing. Scope of anchor line should be based upon the following guidelines:

Calm to moderate seas: 5 to 7 times the water depth


Heavy seas: 7 to 10 times the water depth

Performance Criteria	Completed (Initials)	Boat Type
1. Select and plot position for placement of the anchor; note the depth of water, bottom contours, and characteristics.		
2. Brief crew on procedures to be used and establish crew hand signals.		
3. Pilot boat into the selected position.		
4. State expected effects of wind and current on the boat.		
5. Determine scope of anchoring by checking the depth of water and the room available for boat swing.		
6. Ensure crew rigs the anchor.		
7. Approach anchorage keeping the boat headed into the wind and/or current.		
8. Check boat's headway at the charted anchoring position.		
9. Ensure crew puts the anchor over the side; by safest means.		
10. Ensure crew lowers the anchor to the bottom with a round turn around the bitt.		
11. Back boat down slowly, away from the anchor with the crew slowly veering (paying out) the line until the anchor is held.		
12. Veer line until proper scope is reached.		
13. Ensure crew makes line fast to the forward bitt with at least three figure eights.		
14. Notify unit that boat is anchored and give position.		
15. Fix actual position and visual anchor bearings (minimum of 3), or establish and record radar ranges.		
16. Check and record water depth using depth finder.		
17. Ensure the anchor is not dragging.		
18. Set anchor watch, brief Boat Crew Members on responsibilities.		




Instructor _____ **Date** _____

Comments _____

TASK BOSAR-03-22-TYPE: Weigh the Boat's Anchor 

References a. *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series)
 b. *Specific Boat Type Operator's Handbook*, COMDTINST M16114 (series)

Conditions Task should be performed at any time, onboard the unit's boats upon completion of TASK BOSAR-03-21-TYPE. Trainee must accomplish task without prompting or use of a reference.

Standards  Trainee must perform the task without casualty to personnel or boat in accordance with the steps listed below.

Performance Criteria	Completed (Initials)	Boat Type
1. Brief crew on procedure to be used and establish communications.		
2. Move boat ahead slowly, using the engines.		
3. Ensure crew takes up the slack in the anchor line and fakes it on deck out of the way or feeds anchor line into anchor locker/forepeak.		
4. Make line off when anchor is at short stay.		
5. Ensure crew breaks loose the anchor.		
6. Make the anchor line around the forward bitt and advance the boat in a wide circle if the anchor does not free.		
7. Ensure the anchor line does not approach the boat's screw(s).		
8. Ensure crew brings anchor onboard, tending line at all times.		

Instructor _____ **Date** _____

Comments _____



Section D. Rules of the Road

Introduction

The following are objectives of Division Four:

Display competence in the knowledge and use of the International-Inland Rules of the Road.

In this section

This section contains the following task:

Task Number	Task	See Page
BOSAR-04-01-ANY	Successfully Complete the Navigation Rules Requirements for both Advancement and Coxswain/Boat Operator Certification	50

TASK BOSAR-04-01-ANY: **Successfully Complete the Navigation Rules Requirements for both Advancement and Coxswain/Boat Operator Certification**



NOTE

Members not completing this task will be **ineligible** for the Credentialing as a Boat Operator.

References

- a. *Navigation Rules International-Inland*, COMDTINST M16672.2 (series)
- b. *U.S. Coast Guard Boat Operations and Training (BOAT) Manual, Volume I*, COMDTINST M16114.32 (series)

Conditions

Task may be performed at any time in a manner prescribed by the above references and the course or examination issuing authority.

Standards



Trainee must receive a passing score on the CG Institute NAVRULS End-of-Course Test, or Deck Watch Officer Examination.

Performance Criteria	Completed (Initials)
9. Receive passing score on the CG Institute NAVRULS End-of-Course Test.	
OR	
10. Receive passing score on the Deck Watch Officer Examination.	

Instructor _____

Date _____

Comments _____



Section E. Boat Piloting and Navigation

NOTE

The tasks within this Section **DO NOT** apply to cutterboat trainees who will only operate within sight of the cutter. Certification letters or E-Training remarks must state the Coxswain's operating limitations.

Introduction

The following are objectives of Division Five:

Identify and state the use of various common navigational references.

Demonstrate the ability to pilot using the installed electronic navigational equipment found on U.S. Coast Guard boats.

Demonstrate the ability to pilot a U.S. Coast Guard boat using dead reckoning (DR) techniques.

Demonstrate knowledge of the local operations area.

In this section

This section contains the following tasks:



Task Number	Task	See Page
BOSAR-05-01-ANY	Identify Navigational Publications	52
BOSAR-05-02-ANY	Determine a Compass Course from a True Course	53
BOSAR-05-03-ANY	Pilot the Boat Using Dead Reckoning (DR) Techniques	53
BOSAR-05-04-ANY	Pilot a Boat Using "Seaman's Eye"	54
BOSAR-05-05-TYPE	Operate the GPS/DGPS	55
BOSAR-05-06-TYPE	Determine the location of a Boat Using GPS/DGPS	56
BOSAR-05-07-TYPE	Pilot a Boat Using GPS/DGPS	57
BOSAR-05-08-TYPE	Operate the Radar	58
BOSAR-05-09-TYPE	Determine the Location of a Boat Using Radar Ranges and Bearings	59
BOSAR-05-10-ANY	Conn a Boat Using Radar	60
BOSAR-05-11-TYPE	Operate Electronic Charting	61
BOSAR-05-12-ANY	Pilot a Boat Using all Electronic Equipment, a Navigation Kit, Charts, and Tables	63
BOSAR-05-14-TYPE	Operate the Autopilot	65
BOSAR-05-15-ANY	Distance, Speed, and Time	66



TASK BOSAR-05-01-ANY: Identify Navigational Publications

References

- a. Coast Pilot
- b. Light List
- c. Nautical Charts of Local Area
- d. Nautical Chart Symbols, Abbreviations and Terms, Chart No. 1
- e. *Navigation Rules International-Inland*, COMDTINST M16672.2 (series)
- f. Notice to Mariners/Local Notice to Mariners
- g. The American Practical Navigator
- h. Tide Tables/Tidal Current Tables

Conditions

Task may be completed at any time. Trainee must accomplish the task without prompting or use of any further reference.

Standards

Trainee must identify, without error, the commonly used navigational publications listed below, and state the use of each one. Trainee must specify those volumes or chapters of these publications that pertain to the local operating area.

Performance Criteria	Completed (Initials)
1. State and identify Navigation Rules and their use.	
2. Identify and state the use of the Coast Pilot and the appropriate entries for local area.	
3. Identify and state the use of the <i>Light List</i> and the appropriate entries for local area.	
4. Identify and state the use of the Local Notice to Mariners.	
5. Identify and state the use of the Tide Tables and the appropriate entries for the local area.	
6. Identify and state the use of the Tidal Current Tables and the appropriate entries for the local area.	
7. Identify all Nautical Charts for Local Area.	
8. Identify and state the use of Chart No. 1.	
9. Identify and state the use of The American Practical Navigator.	

Instructor _____

Date _____

Comments



TASK BOSAR-05-02-ANY: Determine a Compass Course from a True Course



References

- a. *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series)
- b. *The American Practical Navigator*

Conditions

Task should be performed at any time, given a chart of the local area and a deviation table for any unit boat. Trainee must accomplish the task without prompting or use of a reference.

Standards

Trainee must, without error, convert given true courses into compass courses for the boat used in accordance with the steps listed below.



Performance Criteria	Completed (Initials)
1. Identify magnetic variation and the annual change for the local area.	
2. Plot and label from five positions provided by the instructor.	
3. Connect the five positions with true courses.	
4. Determine and list magnetic and compass course for each true course.	

Instructor _____

Date _____

Comments _____

TASK BOSAR-05-03-ANY: Pilot the Boat Using Dead Reckoning (DR) Techniques



References

- a. *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series)
- b. *Coast Guard Navigation Standards*, COMDTINST M3530.2 (series)
- c. *The American Practical Navigator*

Conditions

Task must be performed while underway, day or night, in calm to moderate weather conditions, using only the installed compass, speed/engine RPM curve, stopwatch, navigational kit, and charts found on the boat. The course to be run must be at least five miles long with at least four turns. All courses and speeds to turn points are to be given to the trainee by the instructor. Trainee must accomplish the task without prompting or use of a reference.

Standards

All turn point locations must be within $\frac{1}{4}$ of a nautical mile. All plotting on charts must be done using proper chart notation and symbols. All locations must be verified by taking a simultaneous sounding using the fathometer (if available). The instructor should verify all locations using the boat's installed navigation systems.



Performance Criteria	Completed (Initials)
1. Lay out compass course on the chart indicating predicted turns.	
2. Predict estimated time of arrival (ETA) to first turn point.	
3. Pilot boat to the first predicted position using only the boat's compass, speed/engine RPM curve, and stopwatch.	
4. Predict ETA to next turn point with course and correct speed to make good to second position.	



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Performance Criteria	Completed (Initials)
5. Pilot boat to the next predicted position using only the boat's compass, speed/engine RPM curve, and stopwatch.	
6. Repeat steps 4 and 5 until voyage is complete.	

Instructor _____ **Date** _____

Comments _____

TASK BOSAR-05-04-ANY: Pilot a Boat Using "Seaman's Eye"



References

- d. *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series)
- e. *Coast Guard Navigation Standards*, COMDTINST M3530.2 (series)
- f. *The American Practical Navigator*

Conditions

Task must be performed while underway, day or night, in calm to moderate weather conditions. Task should be run over a course provided by the instructor of at least 3 NM and containing at least 8 course changes, using only a local chart of the area, local knowledge of the area, aids to navigation, terrestrial landmarks, and "Seaman's Eye". Visibility must be at least 1 NM. Trainee must accomplish the task without prompting or use of a reference.

Standards




Courses must be steered directly without wandering or requiring any stopping or back tracking in order to stay on course or within any channels. At no time may the boat or crew be put in danger.

Performance Criteria	Completed (Initials)
1. Lay out and label courses on the chart.	
2. Clear the pier and start boat on course.	
3. Identify terrestrial landmark or aids to navigation to be used to steer to first turn point.	
4. Steer boat directly to first turn point.	
5. Turn boat upon reaching first turn point.	
6. Identify terrestrial landmark or aids to navigation to be used to steer to second turn point.	
7. Steer boat directly to next turn point.	
8. Repeat steps 5 through 7 until voyage is complete.	

Instructor _____ **Date** _____

Comments _____



TASK BOSAR-05-05-TYPE: Operate the GPS/DGPS 

- References**
- a. *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series)
 - b. *GPS/DGPS Operator's Handbook*
 - c. *The American Practical Navigator*

Conditions Task should be performed day or night, under any weather conditions, using only the installed GPS/DGPS. Trainee must accomplish the task without prompting or use of a reference.

Standards In response to the instructor, the trainee must, without error, perform the steps listed below. Each step should be completed within 5 minutes.



Performance Criteria	Completed (Initials)	Boat Type
1. Identify and state the use of all unit display controls.		
2. Energize GPS/DGPS unit.		
3. Adjust screen for daytime and nighttime viewing.		
4. Determine signal status, using satellite monitor display.		
5. Demonstrate the following functions as equipped: <ul style="list-style-type: none"> a. Waypoint/Routes b. Event c. Position d. Route e. MOB f. Alarm g. Navigation h. GOTO i. Convert Loran C 		
6. Enter setup menu and ensure the following are correct: <ul style="list-style-type: none"> a. Map datum b. Variation c. Time d. DGPS selected, if installed e. Date f. Units of measurement for AOR 		

Instructor _____ **Date** _____

Comments _____



TASK BOSAR-05-06-TYPE: Determine the location of a Boat Using GPS/DGPS

References

- a. *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series)
- b. GPS/DGPS Operator’s Handbook
- c. The American Practical Navigator

Conditions

Task should be performed at any time, onboard the unit’s boats, day or night, under any weather conditions, using only the installed GPS/DGPS, navigation kit, and local charts of the area. Trainee must accomplish the task without prompting of use of a reference.

Standards

The location must be within 100 yards. All plotting on charts should be done using proper chart notation and symbols.



Performance Criteria	Completed (Initials)	Boat Type
1. Energize GPS/DGPS.		
2. Determine signal status.		
3. Plot position of boat using latitude and longitude coordinates obtained from the boat’s GPS/DGPS.		

Instructor _____

Date _____

Comments




TASK BOSAR-05-07-TYPE: Pilot a Boat Using GPS/DGPS 


- References**
- a. *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series)
 - b. GPS/DGPS Operator’s Handbook
 - c. The American Practical Navigator

Conditions

Task must be performed onboard the unit’s boats while underway, day or night, under any weather conditions. Task must be run over a course provided by the instructor of at least 3 NM and containing at least 4 course changes, using only the installed GPS/DGPS, fathometer/depth sounder a stopwatch or clock, navigation kit, and local charts of the area. Trainee must accomplish the task without prompting or use of a reference.

Standards 

The boat must remain within $\frac{1}{10}$ of a nautical mile of the intended course. All turns must be made within 50 yards of the turn point. Times must be within one minute (plus or minus) of the estimated time of turn. Course must be completed within 5 minutes (plus or minus) of the ETA and 100 yards of the final destination. Two or more fixes are required on legs of at least 3 NM. All chart plotting must be accomplished using proper notation and symbols. The instructor should verify positions and speeds using the available navigational instruments.

Performance Criteria	Completed (Initials)	Boat Type
1. Activate the GPS/DGPS.		
2. Determine and lay out courses and waypoints for turns on the chart		
3. Enter and name waypoints into the GPS/DGPS		
4. Insert waypoints into a route		
5. Compare Chart work to GPS/DGPS info, for comparison		
NOTE  <div style="border: 1px solid black; padding: 5px; display: inline-block;"> If equipped Radar and Chart Plotter shall be energized for safe Navigation Practices. This task should be completed using only the GPS/DGPS. </div>		
6. Set up cross track error (XTE) limits		
7. Insure that fathometer/depth sounder offset depth is correct and properly entered in each applicable component.		
8. Clear boat from pier and start on course.		
9. Determine boat’s speed using the GPS/DGPS, stopwatch, or clock.		
10. Conn boat directly to first turn point.		
11. Continue until voyage is complete.		
12. Demonstrate Reverse Route for return trip.		

Instructor _____ **Date** _____

Comments



TASK BOSAR-05-08-TYPE: Operate the Radar



References

- a. *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series)
- b. Radar Operator's Handbook
- c. The American Practical Navigator

Conditions

Task should be performed onboard the unit's boats while underway or moored, day or night, under any weather conditions, using only the installed Radar. Trainee must accomplish the task without prompting or use of a reference.


Standards

In response to the instructor, the trainee must, without error, perform the steps listed below. Each step should be completed within 5 minutes.



Performance Criteria	Completed (Initials)	Boat Type
1. Identify and state the use of all unit display controls.		
2. Energize the GPS/DGPS. (If required for Radar Operation)		
3. Energize Radar and demonstrate the Stand-By and Transmit function.		
4. Adjust screen for daytime and nighttime viewing		
5. Demonstrate entering Display mode menu(s).		
6. Demonstrate Entering the following Setup options as equipped: <ol style="list-style-type: none"> a. Radar Display Setup b. Radar Range setup c. ARP Setup d. Function Key Setup e. System Configuration 		
7. Demonstrate adjusting the following settings as equipped: <ol style="list-style-type: none"> a. Tune (If required, SINS should remain in auto tune) b. Gain c. Sea Clutter d. Rain e. Noise/Interference Rejection f. ECHO Color g. Background Color 		
8. Demonstrate the use of the following as equipped: <ol style="list-style-type: none"> a. Variable Range Markers (VRM) b. Range Rings c. Electronic Bearing Lines (EBL) d. Offset Electronic Bearing Line (EBL) e. Cursor function f. Guard Zones g. Zoom function h. Waypoint Marker 		



Performance Criteria	Completed (Initials)	Boat Type
i. Watchman function j. Presentation Modes (True, Head-up, Course-up and North-up) k. Offset/shift function		
9. Demonstrate cycling through Range Scales.		
10. Identify Heading Line and state current heading.		
NOTE  Line item number 10 should be completed while underway.		
11. Demonstrate the use of DATA boxes.		
12. Turn unit off.		

Instructor _____ **Date** _____

Comments _____

TASK BOSAR-05-09-TYPE: Determine the Location of a Boat Using Radar Ranges and Bearings 

References

- a. *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series)
- b. Radar Operator's Handbook
- c. The American Practical Navigator

Conditions

Task must be performed while underway, at night or during a period of restricted visibility, in calm to moderate weather, using only the installed radar, compass, fathometer, navigation kit, and corrected charts found on the boat. The charts used should be harbor charts or some other larger scale charts (no smaller than 1:80,000). Trainee must accomplish the task without prompting or use of a reference.

Standards



All fixed positions must be accurate to within one-tenth of a nautical mile using three radar LOPs. All plotting on charts should be done using proper chart notation and symbols. All locations should be verified by taking a simultaneous sounding using the fathometer.

Performance Criteria	Completed (Initials)	Boat Type
1. Activate and properly tune radar set.		
2. Determine position of the boat within standards while underway, but with no way-on.		
3. Determine position of the boat within standards while underway at slow speed.		
4. Take two or more fixes over a course of at least three miles.		
5. Verify all positions by utilizing the fathometer/depth sounder to check the soundings.		



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Comments

TASK BOSAR-05-10-ANY: Conn a Boat Using Radar



References

- a. *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series)
- b. *Coast Guard Navigation Standards*, COMDTINST M3530.2 (series)
- c. Radar Operator's Handbook

Conditions

Task must be performed while underway, at night or during periods of restricted visibility, in calm weather. Task should be run over a course provided by the instructor of at least 3 NM and containing at least 5 course changes (of 10° or more), using only a local corrected chart of the area, local knowledge of the area, aids to navigation, terrestrial landmarks, and the boat's radar and fathometer/depth sounder. Trainee must accomplish the task without prompting or use of a reference.

Standards



The boat must remain within one-tenth of a nautical mile of the intended course. All turns must be made within 50 yards of the turn points. Times must be within one minute (plus or minus) of the estimated time of turn. All chart plotting must be accomplished using proper notation and symbols. The instructor should verify positions and speeds using the available navigational instruments. Two or more fixes must be taken over a course of at least 3 NM. At no time may the boat or crew be put in danger.

Performance Criteria	Completed (Initials)
1. Activate and properly tune radar set.	
2. Correctly lay out courses on the chart.	
3. Steer boat directly to turn point using proper helm commands.	
4. State range to closest point of land.	
5. State range and bearing to local hazards to navigation.	
6. Use proper commands to steer boat directly to first turn point.	
7. Plot turn bearing correctly and utilize for turn.	
8. Repeat steps 3 through 7 until voyage is completed.	
9. Identify contacts and take avoidance, if necessary.	
10. Take two or more fixes over a course of at least 3 NM.	
11. Determine speed over ground using the radar.	

Instructor _____ **Date** _____


Comments



TASK BOSAR-05-11-TYPE: Operate Electronic Charting 

References a. *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series)
 b. Chart Plotter Operator’s Handbook

Conditions Task should be performed on the unit’s boats while underway or moored, day or night, under any weather conditions, using only the installed chart plotter. Trainee must accomplish the task without prompting or use of a reference.

Standards  In response to the instructor, the trainee must, without error, perform the steps listed below. Each step should be completed within 5 minutes.

Performance Criteria	Completed (Initials)	Boat Type
1. Identify and state the use of all unit display controls.		
2. Energize the chart plotter and associated equipment (GPS/DGPS) as needed.		
3. Adjust screen for daytime and nighttime viewing.		
4. Demonstrate entering Display mode menu(s).		
5. Demonstrate entering the following setup options as equipped: a. Waypoint Switching or Waypoint Pass Criteria b. Course Vector c. Chart Setup d. Chart Details e. Track & Mark controls		
6. Operate cursor to identify objects/symbols.		
7. Demonstrate the use of the track pad.		
8. Demonstrate the MOB/SAVE function.		
9. Demonstrate the mark function.		
10. Demonstrate the event function if equipped.		
11. Demonstrate the display function, cycle between Radar/Chart Plotter left or right split screen and Chart Overlay option if equipped.		
12. Demonstrate the range function (curser).		
13. Explain the function of clear and enter.		
14. Enter the main menu and demonstrate the following functions: a. Enter, edit, and delete a waypoint b. Start, edit, and delete tracks c. Alarm/timers d. Set up and use a route with five or more waypoints e. Use of log function in route		



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Performance Criteria	Completed (Initials)	Boat Type
f. Waypoints using cursor		
15. Enter setup menu and ensure the following are correct: a. Map datum b. Variation c. Date/time d. Units of measurement for AOR		
16. Demonstrate how to install/remove chart cards.		
17. Turn unit off.		

Instructor _____ **Date** _____

Comments _____



TASK BOSAR-05-12-ANY: Pilot a Boat Using all Electronic Equipment, a Navigation Kit, Charts, and Tables

References

- a. *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series)
- b. *Electronics Operator Handbook's*

Conditions

Task must be performed while underway at night, under any weather conditions. Task must be run over a course provided by the instructor of at least 10 miles and containing at least 5 course changes (of 10° or more), using the installed GPS/DGPS, radar, chart plotter, fathometer/depth sounder, compass, a stopwatch or clock, navigation kit, and appropriate charts of the AOR. Trainee must accomplish the task without prompting or use of a reference.

Standards



The boat must remain within one-tenth of a nautical mile of the intended course. All turns must be made within 50 yards of the turn point. Times must be within one minute (plus or minus) of the estimated time of turns. Course must be completed within 5 minutes (plus or minus) of the ETA and 100 yards of the final destination. Two or more fixes are required on legs of at least 3 NM. All chart plotting must be accomplished using proper notation and symbols. The instructor should verify positions and speeds using the available navigational instruments.

Performance Criteria	Completed (Initials)
1. Determine and lay out courses and plot waypoints for turns on the chart.	
2. Predict boat's speed and ETA for each turn point and final destination.	
3. Compute running time in minutes for each leg at desired speed.	
4. Activate and tune GPS/DGPS, radar, chart plotter and fathometer/depth sounder.	
5. Insure that fathometer/depth sounder offset depth is correct and properly entered in each applicable component.	
6. Enter route into GPS/DGPS or chart plotter as equipped	
7. Clear pier and start on course.	
8. Determine boat's speed using the GPS/DGPS, update ETA as needed.	
9. Steer boat directly to first turn point.	
10. Take two or more fixes on each leg over 3 NM.	
11. Steer boat directly to each turn point using proper helm commands.	
12. Continue until voyage is complete.	

Instructor _____

Date _____

Comments



TASK BOSAR-05-13-TYPE: Operate, Determine the Location of, and Pilot a Non-Standard Boat Using GPS/DGPS



References

- a. *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series)
- b. GPS/DGPS Operator's Handbook

Conditions

Task must be performed on the unit's boats while underway, day or night, under any weather conditions. Task must be run over a course of 3 NM, using only an installed or handheld GPS/DGPS, fathometer/depth sounder, stopwatch or clock, navigation kit, and local charts of the area. Trainee must accomplish the task without prompting or use of a reference.

Standards



The boat must remain within one-tenth of a nautical mile of the intended course, and within 3 minutes of the ETA when the final destination is reached.

Performance Criteria	Completed (Initials)	Boat Type
1. Determine and lay out courses and waypoints on the chart.		
2. Predict boat's speed and ETA.		
3. Enter waypoints into the GPS/DGPS properly.		
4. Clear docks and start on course.		
5. Steer boat directly to final destination.		
6. Determine boat's speed utilizing GPS/DGPS.		

Instructor

Date

Comments



TASK BOSAR-05-14-TYPE: Operate the Autopilot

References

- a. *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series)
- b. Autopilot Operator’s Handbook

Conditions

Task should be performed on the unit’s boats while underway or moored, day or night, under any weather conditions, using only the installed chart plotter. Trainee must accomplish the task without prompting or use of a reference.

Standards

In response to the instructor, the trainee must, without error, perform the steps listed below. Each step should be completed within 5 minutes.

Performance Criteria	Completed (Initials)	Boat Type
1. Adjust backlighting.		
2. Explain and demonstrate the compass mode.		
3. Explain and demonstrate the navigation mode.		
4. Explain and demonstrate the power steer mode.		
5. Identify and explain all of the alarms.		
6. Locate the installed GPS/DGPS providing navigational information.		

Instructor

Date

Comments



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TASK BOSAR-05-15-ANY: Distance, Speed, and Time

References

- a. *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series)
- b. *Coast Guard Navigation Standards*, COMDTINST M3530.2 (series)
- c. *The American Practical Navigator*

Conditions

Task should be performed at any time onboard the boat. Trainee must accomplish the task without prompting or use of a reference.

Standards



In response to the instructor, the trainee must, without error, state the basic concepts related to navigation as outlined in the steps listed below.

Performance Criteria	Completed (Initials)
1. State the importance of computing distance, speed, and time.	
2. State units of measurements and formulas for distance, speed, and time.	
3. State understanding of nautical slide rule.	
4. Complete 5 distance, speed and time problems provided by the instructor.	
5. Demonstrate the 3-minute rule.	
6. Demonstrate the 6-minute rule.	

Instructor _____

Date _____

Comments



Section F. Search and Rescue (SAR)

Introduction

The following are objectives of Division Six:

Demonstrate knowledge of SAR organization and responsibility.


Demonstrate knowledge of SAR fundamentals.

Demonstrate the ability to plot and execute commonly used search patterns.

In this section

This section contains the following tasks:



Task Number	Task	See Page
BOSAR-06-04-ANY	Plot the Following Search Patterns: Expanding Square (SS), Sector (VS) 	68
BOSAR-06-05-ANY	Plot the Following Search Patterns: Parallel (PS), Creeping Line (CS), Track Line Non-Return (TSN), and Track Line Return (TSR)	68
BOSAR-06-06-ANY	Execute a Single Unit Expanding Square Search (SS) Pattern	69
BOSAR-06-07-ANY	Execute a Single Unit Sector Search (VS) Pattern	70
BOSAR-06-08-ANY	Execute a Single Unit Parallel Search (PS) Pattern	71
BOSAR-06-09-ANY	Execute a Single Unit Creeping Line Search (CS) Pattern	72
BOSAR-06-10-ANY	Execute a Single Unit Track Line Non-Return Search (TSN) Pattern	73
BOSAR-06-11-ANY	Execute a Single Unit Track Line Return Search (TSR) Pattern	74



TASK BOSAR-06-04-ANY: Plot the Following Search Patterns: Expanding Square (SS), Sector (VS)

References

- a. *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series)
- b. Coast Guard Institute SAR Fundamentals Course 0431
- c. *U.S. Coast Guard Addendum to the United States National Search and Rescue Supplement (NSS) to the International Aeronautical and Maritime Search and Rescue Manual*, COMDTINST M16130.2 (series)

Conditions

Task should be performed at any time onboard the boat. Instructor will provide the trainee with a Search Action Plan, including area description, pattern description, commence search point (CSP), track spacing, major axis, minor axis, and search speed. Trainee must accomplish the task without prompting or use of a reference.

Standards

Commence search point must be accurate to within 100 yards, track lines must be within 3°, and times to run within 60 seconds.



Performance Criteria	Completed (Initials)
1. Lay out search pattern correctly on chart with CSP in the proper location and orient the first leg in the correct direction for each pattern.	
2. Calculate time to complete the search and time to turn for each search leg for the designated pattern.	

Instructor _____

Date _____

Comments

TASK BOSAR-06-05-ANY: Plot the Following Search Patterns: Parallel (PS), Creeping Line (CS), Track Line Non-Return (TSN), and Track Line Return (TSR)



References

- a. *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series)
- b. Coast Guard Institute SAR Fundamentals Course 0431
- c. *U.S. Coast Guard Addendum to the United States National Search and Rescue Supplement (NSS) to the International Aeronautical and Maritime Search and Rescue Manual*, COMDTINST M16130.2 (series)

Conditions

Task should be performed at any time onboard the boat. Instructor will provide the trainee with a Search Action Plan, including area description, pattern description, commence search point (CSP), track spacing, major axis, minor axis, and search speed. Trainee must accomplish the task without prompting or use of a reference.

Standards

Commence search point must be accurate to within 100 yards, track lines must be within 3°, and times to run within 60 seconds.





Performance Criteria	Completed (Initials)
1. Lay out search pattern correctly on chart with CSP in the proper location and orient the first leg in the correct direction for each pattern.	
2. Calculate time to complete the search and time to turn for each search leg for the designated pattern.	

Instructor _____ **Date** _____

Comments _____

TASK BOSAR-06-06-ANY: Execute a Single Unit Expanding Square Search (SS) Pattern



References

- a. *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series)
- b. Coast Guard Institute SAR Fundamentals Course 0431
- c. GPS Operator's Handbook
- d. Radar Operator's Handbook
- e. *U.S. Coast Guard Addendum to the United States National Search and Rescue Supplement (NSS) to the International Aeronautical and Maritime Search and Rescue Manual*, COMDTINST M16130.2 (series)

Conditions

Trainee will be given a Boat with operational GPS, radar, radio, compass, corrected chart of the operating area, and a certified crew operating within prescribed limitations. Instructor will provide the trainee with a Search Action Plan, including area description, pattern description, CSP, track spacing and search speed. Task will be performed while underway, day or night, in calm to moderate weather.

Standards



Trainee must plot the search pattern in accordance with TASK BOSAR-06-04-ANY. The pattern will be run for a minimum of 5 legs, all turns must be 90° to the right and turns commenced within 15 seconds of stated DR times. Search pattern shall be commenced in the direction of drift and within 5 minutes of arrival on scene

Performance Criteria	Completed (Initials)
1. Brief crew on mission.	
2. Arrive within 100 yards of plotted CSP.	
3. Report on-scene weather and start time of pattern to SMC.	
4. Run first leg of pattern in direction of drift within 5 minutes of arrival.	
5. State speed over ground (SOG).	
6. Utilize fathometer to verify depth.	
7. Navigate boat in accordance with rules of the road.	
8. Identify and utilize aids to navigation.	
9. Use illumination without compromising night vision, if task is conducted at night.	
10. Pass final position of datum to SMC.	



Instructor _____ **Date** _____

Comments _____

TASK BOSAR-06-07-ANY: Execute a Single Unit Sector Search (VS) Pattern



References

- a. *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series)
- b. Coast Guard Institute SAR Fundamentals Course 0431
- c. GPS Operator's Handbook
- d. Radar Operator's Handbook
- e. *U.S. Coast Guard Addendum to the United States National Search and Rescue Supplement (NSS) to the International Aeronautical and Maritime Search and Rescue Manual*, COMDTINST M16130.2 (series)

Conditions

Trainee will be given a Boat with operational GPS, radar, radio, compass, corrected chart of the operating area, and a certified crew operating within prescribed limitations. Instructor will provide the trainee with a Search Action Plan, including area description, pattern description, CSP, track spacing and search speed. Task will be performed while underway, day or night, in calm to moderate weather.

Standards



The trainee must plot the search pattern in accordance with TASK BOSAR-06-04-ANY. All turns shall be 120° to the right and within 15 seconds of the stated DR times. Search pattern shall be commenced in the direction of drift and within 5 minutes of arrival on scene.

Performance Criteria	Completed (Initials)
1. Brief crew on mission.	
2. Arrive within 100 yards of plotted CSP.	
3. Deploy datum marker buoy at CSP.	
4. Advise SMC of on-scene weather and start time of pattern.	
5. Run first leg of pattern in direction of drift within 5 minutes.	
6. Adjust the 3 rd , 6 th and 9 th legs to pass through datum.	
7. State SOG.	
8. Utilize fathometer to verify depth.	
9. Navigate boat in accordance with rules of the road.	
10. Identify and utilize aids to navigation.	
11. Use illumination without compromising night vision, if task is conducted at night.	
12. Pass final position of datum to SMC.	

Instructor _____ **Date** _____

Comments _____



TASK BOSAR-06-08-ANY: Execute a Single Unit Parallel Search (PS) Pattern



References

- a. *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series)
- b. Coast Guard Institute SAR Fundamentals Course 0431
- c. GPS Operator's Handbook
- d. Radar Operator's Handbook
- e. *U.S. Coast Guard Addendum to the United States National Search and Rescue Supplement (NSS) to the International Aeronautical and Maritime Search and Rescue Manual*, COMDTINST M16130.2 (series)

Conditions

Trainee will be given a Boat with operational GPS, radar, radio, compass, corrected chart of the operating area, and a certified crew operating within prescribed limitations. Instructor will provide the trainee with a Search Action Plan, including area description, pattern description, CSP, track spacing and search speed. Task will be performed while underway, day or night, in calm to moderate weather.

Standards

Trainee must plot the search pattern in accordance with TASK BOSAR-06-05-ANY. The Boat shall commence search within 100 yards of the CSP. All turns shall be 90° and within 50 yards of plotted turn points. The search pattern shall be run for a minimum of 5 legs. The search pattern shall be completed within 5 minutes of the calculated completion time.



Performance Criteria	Completed (Initials)
1. Brief crew on mission.	
2. Enter all turns into GPS as waypoints.	
3. Arrive within 100 yards of plotted CSP.	
4. Adjust course and speed to stay on track line.	
5. Complete turns within 50 yards of plotted positions.	
6. Utilize XTE function.	
7. Utilize SOG function.	
8. Utilize ETA function.	
9. Utilize fathometer to verify water depth.	
10. Navigate boat in accordance with rules of the road.	
11. Identify and utilize aids to navigation.	
12. Use illumination without compromising night vision, if task is conducted at night.	
13. Advise SMC of completion time of pattern.	

Instructor _____

Date _____

Comments



TASK BOSAR-06-09-ANY: Execute a Single Unit Creeping Line Search (CS) Pattern

References

- a. *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series)
- b. Coast Guard Institute SAR Fundamentals Course 0431
- c. GPS Operator's Handbook
- d. Radar Operator's Handbook
- e. *U.S. Coast Guard Addendum to the United States National Search and Rescue Supplement (NSS) to the International Aeronautical and Maritime Search and Rescue Manual*, COMDTINST M16130.2 (series)

Conditions

Trainee will be given a Boat with operational GPS, radar, radio, compass, corrected chart of the operating area, and a certified crew operating within prescribed limitations. Instructor will provide the trainee with a Search Action Plan, including area description, pattern description, CSP, track spacing, major axis, minor axis, and search speed. Task will be performed while underway, day or night, in calm to moderate weather.

Standards



Trainee must plot the search pattern in accordance with TASK BOSAR-06-05-ANY. The Boat shall commence search within 100 yards of the CSP. All turns shall be 90° and within 50 yards of plotted turn points. The search pattern shall be run for a minimum of 5 legs. The search pattern shall be completed within 5 minutes of the calculated completion time.

Performance Criteria	Completed (Initials)
1. Brief crew on mission.	
2. Enter all turns into GPS as waypoints.	
3. Arrive within 100 yards of plotted CSP.	
4. Adjust course and speed to stay on track line.	
5. Complete turns within 50 yards of plotted positions.	
6. Utilize XTE function.	
7. Utilize SOG function.	
8. Utilize ETA function.	
9. Utilize depth sounder to verify water depth.	
10. Navigate boat in accordance with rules of the road.	
11. Identify and utilize aids to navigation.	
12. Use illumination without compromising night vision, if task is conducted at night.	
13. Advise SMC of completion time of pattern.	

Instructor

Date

Comments



TASK BOSAR-06-10-ANY: Execute a Single Unit Track Line Non-Return Search (TSN) Pattern



References

- a. *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series)
- b. Coast Guard Institute SAR Fundamentals Course 0431
- c. GPS Operator's Handbook
- d. Radar Operator's Handbook
- e. *U.S. Coast Guard Addendum to the United States National Search and Rescue Supplement (NSS) to the International Aeronautical and Maritime Search and Rescue Manual*, COMDTINST M16130.2 (series)

Conditions

Trainee will be given a Boat with operational GPS, radar, radio, compass, corrected chart of the operating area, and a certified crew operating within prescribed limitations. Instructor will provide the trainee with a Search Action Plan, including area description, pattern description, CSP, track spacing, major axis, minor axis, and search speed. Task will be performed while underway, day or night, in calm to moderate weather.

Standards

Trainee must plot the search pattern in accordance with TASK BOSAR-06-05-ANY. The Boat shall commence search within 100 yards of the CSP. All turns shall be made within 50 yards of plotted turn points. The search pattern shall be run in its entirety. The search pattern shall be completed within 5 minutes of the calculated completion time.



Performance Criteria	Completed (Initials)
1. Brief crew on mission.	
2. Enter all turns into GPS as waypoints.	
3. Arrive within 100 yards of CSP.	
4. Advise SMC of on-scene weather and start time of pattern.	
5. Adjust course and speed to stay on track line.	
6. Complete turns within 50 yards of plotted positions.	
7. Utilize XTE function.	
8. Utilize SOG function.	
9. Utilize ETA function.	
10. Utilize depth sounder to verify water depth.	
11. Navigate boat in accordance with rules of the road.	
12. Identify and utilize aids to navigation.	
13. Use illumination without compromising night vision, if task is conducted at night.	
14. Advise SMC of completion time of the pattern.	

Instructor _____

Date _____

Comments



TASK BOSAR-06-11-ANY: Execute a Single Unit Track Line Return Search (TSR) Pattern

References

- a. *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series)
- b. Coast Guard Institute SAR Fundamentals Course 0431
- c. GPS Operator's Handbook
- d. Radar Operator's Handbook
- e. *U.S. Coast Guard Addendum to the United States National Search and Rescue Supplement (NSS) to the International Aeronautical and Maritime Search and Rescue Manual*, COMDTINST M16130.2 (series)

Conditions

Trainee will be given a Boat with operational GPS, radar, radio, compass, corrected chart of the operating area, and a certified crew operating within prescribed limitations. Instructor will provide the trainee with a Search Action Plan, including area description, pattern description, CSP, track spacing, major axis, minor axis, and search speed. Task will be performed while underway, day or night, in calm to moderate weather.

Standards



Trainee must plot the search pattern in accordance with TASK BOSAR-06-05-ANY. The boat shall commence search within 100 yards of the CSP. All turns shall be made within 50 yards of plotted turn points. The search pattern shall be run in its entirety. The search pattern shall be completed within 5 minutes of the calculated completion time.

Performance Criteria	Completed (Initials)
1. Brief crew on mission.	
2. Enter all turns into GPS as waypoints.	
3. Arrive within 100 yards of plotted CSP.	
4. Advise SMC of on-scene weather and start time of pattern.	
5. Adjust course and speed to stay on track line.	
6. Complete turns within 50 yards of plotted positions.	
7. Utilize XTE function.	
8. Utilize SOG function.	
9. Utilize ETA function.	
10. Utilize depth sounder to verify water depth.	
11. Navigate boat in accordance with rules of the road.	
12. Identify and utilize aids to navigation.	
13. Use illumination without compromising night vision, if task is conducted at night.	
14. Advise SMC of completion time of pattern.	

Instructor _____ **Date** _____

Comments



Section G. Rescue and Assistance

Introduction

The following are objectives of Division Seven:

Demonstrate the ability to rescue personnel in various distress situations.

Demonstrate the ability to deliver personnel or equipment to vessels in distress.

Demonstrate the knowledge and ability to use standard U.S. Coast Guard boat salvage equipment.

Demonstrate the knowledge and ability to transfer personnel safely between different types of units.

In this section

This section contains the following tasks:



Task Number	Task	See Page
BOSAR-07-01-TYPE	Recover a Person from the Water Using the Direct Pickup Method	76
BOSAR-07-02-TYPE	Recover a Life-Like Dummy (Oscar) in 2 to 4 FT Seas	77
BOSAR-07-03-TYPE	Maneuver the Boat Alongside Another Boat, with No Way-On, and Transfer Personnel	78
BOSAR-07-04-TYPE	Maneuver the Boat Alongside Another Boat, with Way-On, and Transfer Personnel	79
BOSAR-07-05-TYPE	Maneuver the Boat Alongside a Ship and Transfer Personnel	80
BOSAR-07-06-ANY	Use a Portable Pump to Dewater a Sinking or Swamped Boat	81
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BOSAR-07-08-TYPE	Use an Eductor to Dewater a Sinking or Swamped Boat	83
BOSAR-07-09-ANY	Attend a Static Display Given by a CG Helicopter Air Crew	84
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BOSAR-07-12-TYPE	Participate in a Rescue Swimmer Transfer Using the Rescue Strap	87
BOSAR-07-13-TYPE	Demonstrate the Appropriate Responses to the Basic Engineering Casualty Control Exercises (BECCE)	88



TASK BOSAR-07-01-TYPE: Recover a Person from the Water Using the Direct Pickup Method

Reference

a. *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series)

Conditions

Given an operational Boat and a certified crew operating within prescribed limitations, trainee will pick up a live person or a life-like dummy (Oscar) from the water. Task will be performed while underway, during daylight hours, in fair weather conditions and calm seas. The MOB shall wear a helmet, PFD, boat crew survival vest, and if conditions warrant, a wet suit or dry suit. Trainee must accomplish the task without prompting or use of a reference.

Standards



Task must be completed without placing the MOB in any danger and should be completed within 3 minutes of the time the initial warning was given.

Performance Criteria	Completed (Initials)	Boat Type
1. Coxswain/Boat Operator receives report of MOB.		
2. Boat comes about toward the side from which the MOB fell or in a safe manner.		
3. Pointer is assigned and positioned, and Coxswain/Boat Operator is informed of MOB's position.		
4. Deploy life ring and strobe light correctly if used.		
5. Depress MOB button on the GPS/DGPS.		
6. Brief crew on pickup.		
7. Base approach to MOB on prevailing weather conditions.		
8. Recover MOB within 3 minutes.		
9. Notify Station.		

Instructor

Date

Comments



TASK BOSAR-07-02-TYPE: Recover a Life-Like Dummy (Oscar) in 2 to 4 FT Seas



Reference

a. *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series)

Conditions

Given an operational boat and a certified crew operating within prescribed limitations, trainee will recover a life-like dummy (Oscar) from the water. Task will be performed while underway, during daylight hours, with a minimum sea height of 2 FT. Trainee must accomplish the task without prompting or use of a reference.

Standards



Task must be completed without placing the simulated MOB in danger and should be completed within 3 minutes of the time the initial warning was given.

Performance Criteria	Completed (Initials)	Boat Type
1. Coxswain/Boat Operator receives report of MOB.		
2. Boat comes about toward the side from which the MOB fell or in a safe manner.		
3. Pointer is assigned and positioned, and Coxswain/Boat Operator is informed of MOB's position.		
4. Correctly deploy life ring and strobe light if used.		
5. Depress MOB button on the GPS/DGPS.		
6. Brief crew on pickup.		
7. Base approach to MOB on prevailing conditions.		
8. Recover MOB within 3 minutes.		
9. Notify Station.		

Instructor

Date

Comments



TASK BOSAR-07-03-TYPE: Maneuver the Boat Alongside Another Boat, with No Way-On, and Transfer Personnel



Reference

a. *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series)

Conditions

Given an operational Boat, a certified crew operating within prescribed limitations, and another boat underway but with no way-on, trainee will safely transfer personnel from the Boat to the other boat with no way-on. Task will be performed while underway, during daylight hours, in fair weather conditions and calm seas.

Standards



Task must be completed without placing the personnel of either boat in danger. Task should be performed in a controlled manner and without unnecessary maneuvering.

Performance Criteria	Completed (Initials)	Boat Type
10. Brief crew and assign duties.		
11. Establish communications with the other boat.		
12. Brief personnel on the other boat.		
13. Rig all fenders. Roving fender is available if needed.		
14. Make approach to other boat.		
15. Bring Boat alongside other boat.		
16. Transfer personnel to other boat.		
17. Maneuver Boat away from other boat.		

Instructor _____

Date _____

Comments



TASK BOSAR-07-04-TYPE: Maneuver the Boat Alongside Another Boat, with Way-On, and Transfer Personnel

Reference

a. *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series)

Conditions

Given an operational Boat, a certified crew operating within prescribed limitations, and another boat underway with way-on, trainee will safely transfer personnel from the Boat to the other boat with way-on. Task will be performed while underway, during daylight hours, in fair weather conditions and calm seas.

Standards



Task must be completed without placing the personnel of either boat in danger. Task should be performed in a controlled manner and without unnecessary maneuvering.

Performance Criteria	Completed (Initials)	Boat Type
1. Brief crew and assign duties.		
2. Establish communications with the other boat.		
3. Brief personnel on the other boat.		
4. Rig all fenders. Roving fender is available if needed.		
5. Make approach to other boat.		
6. Bring Boat alongside other boat.		
7. Transfer personnel to other boat.		
8. Maneuver Boat away from other boat.		

Instructor

Date

Comments



TASK BOSAR-07-05-TYPE: Maneuver the Boat Alongside a Ship and Transfer Personnel

References	a. <i>Boat Crew Seamanship Manual</i> , COMDTINST M16114.5 (series) b. Knight's Modern Seamanship
Conditions	Given an operational Boat, a certified crew operating within prescribed limitations, and a ship or large boat with an accommodation ladder, Jacob's ladder, or cargo net, trainee will safely transfer personnel from the Boat to the ship or large boat. Task will be performed while underway, during daylight hours, in fair weather conditions and calm seas.
Standards	Task must be completed without placing the personnel of either boat in danger. Task should be performed in a controlled manner and without unnecessary maneuvering.

NOTE

Accomplishment of this task depends on the availability of a ship or large boat. If the geographical location of a unit prevents practical demonstration of this task, it may be postponed until an opportunity presents itself. Task should be accomplished at the earliest possible time.

Performance Criteria	Completed (Initials)	Boat Type
1. Brief crew and assign duties.		
2. Establish communications with the other boat.		
3. Brief shipboard personnel and determine method of transfer.		
4. Rig all fenders. Roving fender is available if needed.		
5. Obtain permission from ship CO to come alongside.		
6. Make approach to ship using a 15 to 30° angle.		
7. Receive sea painter and properly secure as applicable.		
8. Hold boat at desired position alongside the ship.		
9. Transfer personnel to the ship.		
10. Request and receive permission to maneuver away from the ship.		
11. Maneuver Boat away from the ship.		

Instructor _____ **Date** _____

Comments



TASK BOSAR-07-06-ANY: Use a Portable Pump to Dewater a Sinking or Swamped Boat

References

a. *Boat Crew Seamanship Manual, COMDTINST M16114.5 (series), Chapter 18, Section 1*

Conditions

Given an operational Boat, a certified crew operating within prescribed limitations, and another boat simulating taking on water, trainee will dewater the other boat using a portable pump. Task will be performed while underway, during daylight hours, in fair weather conditions and calm seas.

Standards

Task must be completed without placing the personnel of either boat in danger. Trainee should maintain positive control over both boats during the dewatering. Task should be performed in a controlled manner and without unnecessary maneuvering.

WARNING

Do not use a drop/portable pump to dewater a boat with fuel contamination in its bilges.

Performance Criteria	Completed (Initials)
1. Brief crew and assign duties.	
2. Account for all persons from the distressed boat upon arrival and remove them from the boat if necessary.	
3. Rescue any persons in extremis and address medical needs.	
4. Make portable pump ready for use.	
5. Conduct risk assessment before placing CG personnel onboard distressed vessel.	
6. Start portable pump and obtain/maintain suction.	
7. Dewater distressed vessel.	
8. Determine if flooding was controlled.	
9. Safely identify source of flooding.	
10. Safely reduce or stop flooding.	
11. Set flood watch.	
12. Keep SMC advised of status.	

Instructor _____

Date _____

Comments



TASK BOSAR-07-07-TYPE: Maneuver the Boat Alongside or in Close Proximity of a Burning Boat to Transfer Personnel



References

- a. *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series)
- b. *U.S. Coast Guard Addendum to the United States National Search and Rescue Supplement (NSS) to the International Aeronautical and Maritime Search and Rescue Manual*, COMDTINST M16130.2 (series)

Conditions

Given an operational boat, a certified crew operating within prescribed parameters, and another boat with a simulated fire onboard, trainee will transfer personnel from the distressed boat by direct personnel Transfer or in water recovery. Task will be performed while underway, during daylight hours, in fair weather conditions and calm seas.

NOTE

Actual placement of crewmembers in the water is at the discretion of the unit command, personnel placed in the water shall wear a helmet, PFD, boat crew survival vest, and if conditions warrant, a wet or dry suit.

NOTE

If the direct personnel transfer method is used, it is not necessary to actually place water on the drill boat for this task. All of the equipment must be activated, but in order to minimize salt spray on the drill boat the use of heat suppression fog may be simulated.

NOTE

Generally, personnel shall not engage in independent fire fighting operations except to save a life or in the early stages of a fire, where they may avert a significant threat without undue risk.

Standards



Task must be completed without placing the personnel of either boat in danger. Task should be performed in a controlled manner and without unnecessary maneuvering.

Performance Criteria	Completed (Initials)	Boat Type
1. Approach distressed boat from upwind if conditions permit.		
2. Account for all persons from the distressed boat upon arrival.		
3. Based on current conditions and risks, determine recovery methods.		
4. Brief crew and assign duties.		
5. Brief distressed boats crew on intentions, recovery methods.		
6. Prepare MOB recovery equipment as needed.		
7. Prepare fire fighting/heat suppression equipment for use as needed.		
8. Engage fire pump or start portable pump if required.		
9. Use high or low density heat suppression fog to minimize exposure during close quarters maneuvering.		
10. Make approach on distressed boat, if direct transfer method is used, keeping enough contact between boats to safely transfer personnel but minimizing exposure to heat or smoke, insure a crewmember is in place to receive passengers and direct them to safety when onboard.		



Performance Criteria	Completed (Initials)	Boat Type
11. If an in water recovery is the safest method, direct distressed vessels crew where and when to enter water insuring PFD'S are worn or floatation material "ring buoy, fenders, spare life jackets are made available.		
12. Rescue any persons in extremis and address medical needs.		
13. Fighting the fire: a. Describe situations when fighting a fire is appropriate given ORM. b. Demonstrate fire fighting techniques and continued risk assessment.		
14. Keep SMC advised of status, including injuries and location and condition of distressed boat.		

Instructor _____ **Date** _____

Comments _____

TASK BOSAR-07-08-TYPE: Use an Eductor to Dewater a Sinking or Swamped Boat

Reference a. *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series)

Conditions Given an operational Boat, a certified crew operating within prescribed limitations, and another boat simulating taking on water, trainee will dewater the other boat using an eductor. Task will be performed while underway, during daylight hours, in fair weather conditions and calm seas.

Standards Task must be completed without placing the personnel of either boat in danger. Trainee should maintain positive control over both boats during the dewatering. Task should be performed in a controlled manner and without unnecessary maneuvering.

Performance Criteria	Completed (Initials)	Boat Type
1. Brief crew and assign duties.		
2. Account for all persons from the distressed boat upon arrival and remove them from the boat, if necessary.		
3. Rescue any persons in extremis and address medical needs.		
4. Make eductor ready for use.		
5. Conduct risk assessment before placing CG personnel onboard distressed boat.		
6. Start fire pump and obtain/maintain suction.		
7. Dewater distressed boat.		
8. Determine if flooding is controlled.		
9. Safely identify source of flooding.		
10. Safely reduce or stop flooding.		



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Performance Criteria	Completed (Initials)	Boat Type
11. Set flood watch.		
12. Keep SMC advised of status.		

Instructor _____ **Date** _____

Comments

TASK BOSAR-07-09-ANY: Attend a Static Display Given by a CG Helicopter Air Crew

Reference a. *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series)

Conditions Task will be performed at any time with both helicopter types on deck for a static display, prior to conducting helicopter operations.

NOTE

Task **MAY BE DEFERRED** if no helicopter training is available. Task must be completed at the earliest possible time. For cutterboats, task only applies to flight-deck equipped cutters. Task does not apply to contingency Coxswains.

Standards Task must be completed in accordance with the steps listed below.

Performance Criteria	Completed (Initials)
1. Attend static display given by a CG helicopter aircrew prior to conducting helicopter operations.	
2. Identify tow points for each type of helicopter.	
3. Identify all emergency exits for each type of helicopter.	
4. Discuss emergency breakaway procedures with the helicopter aircrew.	

Instructor _____ **Date** _____

Comments



TASK BOSAR-07-10-TYPE: Participate in a Basket Hoist Using the Direct Delivery Method

NOTE *☞*

Task **ONLY** applies to boats 40 FT and above.

Reference

a. *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series)

Conditions

Task will be performed while underway, during daylight hours, in fair weather conditions. Task should be accomplished during a scheduled helicopter operations training session. All crewmembers should be wearing helmets, hearing protection, gloves, PFDs or wet suits, and boat crew personnel survival kits. Trainee must accomplish the task without prompting or use of a reference.

NOTE *☞*

Task **MAY BE DEFERRED** if no helicopter training is available. Task must be completed at the earliest possible time.

Standards

Task must be performed so as not to endanger any crewmembers or the helicopter. Basket and/or cable must not become entangled or otherwise attached to the boat at any time. Basket must be grounded to the boat before crewmembers handle it.

Performance Criteria	Completed (Initials)	Boat Type
1. Brief crew and assign duties.		
2. Establish communications with the helicopter.		
3. Agree on breakaway procedures between helicopter and boat.		
4. State number of persons onboard (POBs) on helicopter and boat.		
5. Establish and maintain boat heading and speed.		
6. Bring basket onto Boat by hand.		
7. Lift basket from Boat and hoist up to helicopter.		

Instructor

Date

Comments



TASK BOSAR-07-11-TYPE: Participate in a Basket Hoist Using the Trail Line Delivery Method

NOTE

Task **ONLY** applies to boats 40 FT and above.

Reference

a. *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series)

Conditions

Task will be performed while underway, during daylight hours, in fair weather conditions. Task should be accomplished during a scheduled helicopter operations training session. All crewmembers should be wearing helmets, hearing protection, gloves, PFDs or wet suits, and boat crew personnel survival kits. Trainee must accomplish the task without prompting or use of a reference.

NOTE

Task **MAY BE DEFERRED** if no helicopter training is available. Task must be completed at the earliest possible time.

Standards

Task must be performed so as not to endanger any crewmembers or the helicopter. Basket and/or cable must not become entangled or otherwise attached to the boat at any time. Basket must be grounded to the boat before crewmembers handle it.

Performance Criteria	Completed (Initials)	Boat Type
1. Brief crew and assign duties.		
2. Establish communications with the helicopter.		
3. Agree on breakaway procedures between helicopter and boat.		
4. State number of POBs on helicopter and boat.		
5. Establish and maintain boat heading and speed.		
6. Bring basket onto Boat using the trail line.		
7. Lift basket from Boat and hoist up to helicopter.		

Instructor _____

Date _____

Comments



TASK BOSAR-07-12-TYPE: Participate in a Rescue Swimmer Transfer Using the Rescue Strap

NOTE 

Task **ONLY** applies to boats 40 FT and above.

Reference

a. *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series)

Conditions

Task will be performed while underway, during daylight hours, in fair weather conditions. Task should be accomplished during a scheduled helicopter operations training session. All crewmembers should be wearing helmets, hearing protection, gloves, PFDs or wet suits, and boat crew personnel survival kits. Trainee must accomplish the task without prompting or use of a reference.

NOTE 

Task **MAY BE DEFERRED** if no helicopter training is available. Task must be completed at the earliest possible time.

Standards

Task must be performed so as not to endanger any crewmembers or the helicopter. Rescue strap and/or cable must not become entangled or otherwise attached to the boat at any time. The cable must be grounded to the boat before crewmembers handle it.

Performance Criteria	Completed (Initials)	Boat Type
1. Brief crew and assign duties.		
2. Establish communications with the helicopter.		
3. Agree on breakaway procedures between helicopter and boat.		
4. State number of POBs on helicopter and boat.		
5. Establish and maintain boat heading and speed.		
6. Transfer rescue swimmer to Boat using the rescue strap.		
7. Hoist rescue swimmer back to helicopter.		

Instructor

Date

Comments



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TASK BOSAR-07-13-TYPE: Demonstrate the Appropriate Responses to the Basic Engineering Casualty Control Exercises (BECCE)

Reference

a. Manufacturers' Operator's Manual and Technical Publications

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

In response to the instructor, the trainee must, without error, demonstrate the steps taken for each of the BECCEs listed, as stated in reference (a) above.

Performance Criteria	Completed (Initials)	Boat Type
8. Fire in the engine room or outboard engine fire.		
9. Loss of steering (cable/hydraulic).		
10. Loss of steering (jammed rudder).		
11. Accidental grounding.		
12. Collision with submerged object.		
13. Reduction gear failure.		
14. Main engine high water temperature.		
15. Loss of main engine lube oil pressure.		
16. Loss of fuel oil pressure.		
17. Loss of control of engine RPMs.		
18. General starting difficulties including engine not starting and emergency starting procedures.		
19. Cooling system casualties.		
20. Propeller damage and excessive cavitation.		
21. Immersed outboard.		
22. Loss of electrical power.		

Instructor

Date

Comments



Section H. Towing and Salvage

Introduction

The following are objectives of Division Eight:

Define and **state** the static and dynamic forces that come into play during various towing evolutions.

Demonstrate the procedures used when preparing to take a boat in tow.

Demonstrate the procedures for inspecting both fixed and running towing gear.

Demonstrate the procedures for taking a boat in tow using different approaches.

In this section

This section contains the following tasks:



Task Number	Task	See Page
BOSAR-08-01-ANY	State General Towing Safety Precautions	90
BOSAR-08-02-ANY	State the Principle Forces that Affect Boat Towing	90
BOSAR-08-03-ANY	Inspect the Towline and Associated Hardware	91
BOSAR-08-04-ANY	Make Preparations for Taking a Boat in Tow	91
BOSAR-08-05-TYPE	Use a "Heavy Weather" Approach to Take a Boat in Stern Tow	92
BOSAR-08-06-ANY	Use a Shackle or Skiff Hook Assembly Connection to Take a Boat in Stern Tow	94
BOSAR-08-07-ANY	Take a Boat in Stern Tow Using a Bridle Connection	95
BOSAR-08-08-TYPE	Take a Boat in Alongside Tow from a Stern Tow	96
BOSAR-08-09-TYPE	Moor a Disabled Boat in Alongside Tow to a Float or Pier	97
BOSAR-08-10-TYPE	Take a Boat at Anchor, Near Shoal Water in Tow	97



TASK BOSAR-08-01-ANY: State General Towing Safety Precautions



Reference a. *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series)

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

Standards In response to the instructor, the trainee must, without error, state the basic policy precautions taken during towing evolutions as outlined in the steps listed below.



Performance Criteria	Completed (Initials)
1. State the precautions regarding removal of personnel from disabled boats.	
2. State the policy regarding wearing of PFDs by persons onboard the disabled boats.	
3. State the precautions regarding the throwing of heaving lines.	
4. State the policy regarding establishing and maintaining communications.	
5. State the precautions regarding personnel around the towline.	
6. State the precautions regarding the breaking strength of shackles used.	
7. State the precautions regarding the towed boat's hull capability and speed.	

Instructor _____ **Date** _____

Comments _____

TASK BOSAR-08-02-ANY: State the Principle Forces that Affect Boat Towing



Reference a. *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series)

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

Standards In response to the instructor, the trainee must, without error, state the principle forces effecting boat towing as outlined in the steps listed below.



Performance Criteria	Completed (Initials)
1. State the causes and effects of static forces.	
2. State the types, causes and effects of dynamic forces.	
3. State the cause of towline strain.	
4. State the cause and effect of shock load.	
5. State the effect that lengthening the towline has on shock load.	

Instructor _____ **Date** _____

Comments _____



TASK BOSAR-08-03-ANY: Inspect the Towline and Associated Hardware



Reference

a. *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series)

Conditions

Task will be performed dockside during daylight hours. All hawsers, bridles, shackles, hooks, and other gear carried aboard the boat and associated with towing will be inspected. Trainee must accomplish the task without prompting or use of a reference.

Standards

All gear should be inspected in accordance with the above reference and as outlined in the steps listed below.



Performance Criteria	Completed (Initials)
1. Inspect the towline and state the warning signs for wear or defective condition.	
2. Inspect the double-braided bridles and state the warning signs for wear or defective condition.	
3. Inspect the shackles and kicker/skiff hook and state the warning signs for defective condition.	
4. Inspect wire rope bridles and state the warning signs for wear or defective condition.	
5. Inspect bitts, cleats, chocks, and the towline storage reel and state the warning signs for defective condition.	

Instructor

Date

Comments

TASK BOSAR-08-04-ANY: Make Preparations for Taking a Boat in Tow



Reference

a. *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series)

Conditions

Task will be performed while underway for training or towing operations during daylight: 10 to 20 KT winds, and seas of not less than 2 FT.

A messenger should be used for passing the towline, and a bridle may be used for hookup. Trainee must accomplish the task without prompting or use of a reference.

Standards

Trainee must perform the task without casualty to personnel or boat in accordance with the steps listed below. Proper radio procedure and prowords shall be used during all radio communications.



Performance Criteria	Completed (Initials)
1. Establish communications using a Coast Guard working frequency.	
2. Determine material condition of the boat to be towed.	
3. Determine physical condition of the people onboard the boat to be towed.	
4. Direct people onboard the boat to be towed to don life preservers.	
5. Bend heaving line to towline for passing to the boat to be towed.	



Performance Criteria	Completed (Initials)
6. Brief people onboard boat to be towed regarding the hookup and towing procedure to be used, including the following: <ul style="list-style-type: none"> a. Hookup procedure b. Line handling c. Safety d. Chafing gear fitting for towing line or bridle e. Breakaway procedure f. Operating procedure (steering behind, etc.) g. Towing approach 	
7. Establish communications schedule to be followed for the duration of the tow.	
8. Establish backup emergency signal(s).	
9. Ensure that the operator of the distressed boat understands the above procedures.	

Instructor _____ **Date** _____

Comments _____



TASK BOSAR-08-05-TYPE: Use a “Heavy Weather” Approach to Take a Boat in Stern Tow

Reference a. *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series)

Conditions Task will be performed while underway for training or towing operations during day light in: 10 to 20 KT winds, and seas of not less than 2 FT.

A messenger should be used for passing the towline and a bridle may be used for hookup. Trainee must accomplish the task without prompting or use of a reference.

Standards Trainee must perform the task without casualty to personnel or boat in accordance with the steps listed below. Towline must be passed on the first pass without resorting to backing down and with no risk of fouling the towline.



Performance Criteria	Completed (Initials)	Boat Type
1. Brief crew on assigned duties.		
2. Make preparations for taking a boat in tow in accordance with TASK BOSAR-08-04-ANY, including the establishment of the best place to attach a line and the rigging of a bridle if one is to be used.		
3. Maneuver boat onto the same heading as the disabled boat and stop astern of it.		
4. Determine boat’s relative rate of drift by observing which boat drifts to leeward faster.		
5. Make approach into predominate weather/seas.		
6. Keep boat stationed in optimal position.		
7. Ensure crewmember passes the heaving line to the disabled boat.		



Performance Criteria	Completed (Initials)	Boat Type
8. Pay out and tend line away from boat's screws.		
9. Place working turn on tow bitt after towline is secured on disabled boat.		
10. Set initial course.		
11. Pay out appropriate length of towline.		
12. Make up tow bitt.		
13. Adjust scope of towline to put towed boat in step.		
14. Set and maintain tow watch.		
15. Display proper lights and sound signals given for the weather conditions present.		
16. Install chafing gear as needed.		
17. Maintain safe towing speed.		
18. Check status of towed boat.		

Instructor _____ **Date** _____

Comments _____



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TASK BOSAR-08-06-ANY: Use a Shackle or Skiff Hook Assembly Connection to Take a Boat in Stern Tow

Reference	a. <i>Boat Crew Seamanship Manual</i> , COMDTINST M16114.5 (series)
Conditions	Task will be performed while underway for training or towing operations, during daylight, in calm to moderate weather conditions. Trainee must accomplish the task without prompting or use of a reference.
Standards	Trainee must perform the task without casualty to personnel or boat in accordance with the steps listed below.

Performance Criteria	Completed (Initials)
1. Brief crew on assigned duties.	
2. Make preparations for taking a boat in tow in accordance with TASK BOSAR-08-04-ANY.	
3. Begin approach from off the bow and downwind of the disabled boat.	
4. Maneuver boat to position in front of the disabled boat.	
5. Ensure crewmember passes the shackle or attaches the skiff hook to the disabled boat.	
6. Pay out and tend line away from boat's screws.	
7. Place working turn on tow bitt after towline is secured on disabled boat.	
8. Set initial course.	
9. Pay out appropriate length of towline.	
10. Make up tow bitt.	
11. Adjust scope of towline to put towed boat in step.	
12. Set and maintain tow watch.	
13. Display proper lights and sound signals given for the weather conditions present.	
14. Install chafing gear as needed.	
15. Maintain safe towing speed.	
16. Check status of towed boat.	

Instructor _____ **Date** _____

Comments



TASK BOSAR-08-07-ANY: Take a Boat in Stern Tow Using a Bridle Connection



Reference

a. *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series)

Conditions

Task will be performed while underway for training or towing operations, during daylight, in calm to moderate weather conditions. Trainee must accomplish the task without prompting or use of a reference.

Standards



Trainee must perform the task without casualty to personnel or boat in accordance with the steps listed below. Towline must be passed on the first pass without resorting to backing down and with no risk of fouling the towline.

Performance Criteria	Completed (Initials)
1. Brief crew on assigned duties.	
2. Make preparations for taking a boat in tow in accordance with TASK BOSAR-08-04-ANY including the establishment of the best place to rig a bridle.	
3. Maneuver boat onto the same heading as the disabled boat and stop astern of it.	
4. Determine boat's relative rate of drift by observing which boat drifts to leeward faster.	
5. Make approach into predominate weather/seas.	
6. Keep boat stationed in optimal position.	
7. Ensure crewmember passes the heaving line to the disabled boat.	
8. Pay out and tend line away from boat's screws.	
9. Place working turn on tow bitt after towline is secured on disabled boat.	
10. Set initial course.	
11. Pay out appropriate length of towline.	
12. Make up tow bitt.	
13. Adjust scope of towline to put boat-towed boat in step.	
14. Set and maintain tow watch.	
15. Display proper lights and sound signals given for the weather conditions present.	
16. Install chafing gear as needed.	
17. Maintain safe towing speed.	
18. Check status of towed boat.	

Instructor _____

Date _____

Comments _____



TASK BOSAR-08-08-TYPE: Take a Boat in Alongside Tow from a Stern Tow

Reference a. *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series)

Conditions Task will be performed while underway for training or towing operations, during daylight, in calm weather conditions. The disabled boat should be at least ¾ the length of the tow boat. Trainee must accomplish the task without prompting or use of a reference.

Standards Trainee must perform the task without casualty to personnel or boat in accordance with the steps listed below. Towline must not be placed near the screws at any time.



Performance Criteria	Completed (Initials)	Boat Type
1. Brief crew on assigned duties.		
2. Brief boat to be towed on procedures to be used.		
3. Prepare deck for alongside tow. <ul style="list-style-type: none"> a. Rig fenders on appropriate side of towing boat. b. Make alongside lines ready. 		
4. Slow speed in increments and shorten tow if needed. Maintain positive control of the tow and keep towline in view and appropriate relative position while shortening tow.		
5. Break down tow bitt, haul slack towline aboard, and fake out of the way (clear of well deck).		
6. Drop towline of disabled boat or properly execute backdown approach.		
7. Move towline to the #1 line position.		
8. Pass and secure tow strap to disabled boat ensuring the stern of the boat is aft of the tow.		
9. Secure aft spring line and stern line.		
10. Energize appropriate navigation lights as needed.		
11. Attach forward spring line.		

Instructor _____ **Date** _____

Comments _____



TASK BOSAR-08-09-TYPE: Moor a Disabled Boat in Alongside Tow to a Float or Pier



Reference a. *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series)

Conditions Task will be performed while underway for training or towing operations, during daylight, in calm weather conditions. Trainee must accomplish the task without prompting or use of a reference.

Standards Trainee must perform the task without casualty to personnel or boat in accordance with the steps listed below. Towline must not be placed near the screws at any time. Boat must be moored on the first try with a minimum of maneuvering.



Performance Criteria	Completed (Initials)	Boat Type
1. State the expected effects of the wind and current on the mooring of the boat.		
2. Brief crew on the procedure to be used and assign duties.		
3. Brief towed boat on mooring method, location, and procedures.		
4. Brief bow pointer and position in effective location.		
5. Approach pier slowly, at an angle.		
6. Safely moor boat(s).		

Instructor _____ **Date** _____

Comments _____

TASK BOSAR-08-10-TYPE: Take a Boat at Anchor, Near Shoal Water in Tow



Reference a. *Boat Crew Seamanship Manual*, COMDTINST M16114.5 (series)

Conditions Task will be performed while underway for training or towing operations, during daylight, in calm to moderate weather conditions. Trainee must accomplish the task without prompting or use of a reference.

Standards Trainee must perform the task without casualty to personnel or boat in accordance with the steps listed below. Towline must be passed on the first pass with no risk of fouling the towline.



Performance Criteria	Completed (Initials)	Boat Type
1. Brief crew on assigned duties.		
2. Make preparations for taking a boat in tow in accordance with TASK BOSAR-08-04-ANY including the establishment of the best place to rig a bridle.		
3. Identify nearest hazard and adjust approach as necessary.		



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Performance Criteria	Completed (Initials)	Boat Type
4. Maneuver towed boat to safest position where heaving line can be passed.		
5. Keep station while heaving line and pass towline/bridle to disabled boat.		
6. Direct crew to tend line with no strain until connection is completed.		
7. Recover anchor of disabled boat or cut anchor line		
8. Tend bitt while boat and tow move clear of restricted waters.		
9. Pay out appropriate length of line for size and type of boat being towed.		
10. Adjust speed accordingly for the type of boat and conditions.		
11. Adjust scope of towline to put boat and towed boat in step.		
12. Set tow watch.		
13. Display proper navigational lights and sound signals for the current weather conditions.		

Instructor _____ **Date** _____

Comments



Chapter 4: Coxswain/Boat Operator for Search and Rescue 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/E-Training system.

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 - Division One	100
B	Reading Assignments - Division Two	101
C	Reading Assignments - Division Three	103
D	Reading Assignments - Division Four	109
E	Reading Assignments - Division Five	110
F	Reading Assignments - Division Six	112
G	Reading Assignments - Division Seven	116
H	Reading Assignments – Division Eight	122



Section A. Reading Assignments - Division One

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:

Task Number	Task Title	Reading Assignment	See Page
BOSAR-01-01-ANY	Crew Fatigue Standards	<ul style="list-style-type: none"> <i>U.S. Coast Guard Addendum to the United States National Search and Rescue Supplement (NSS) to the International Aeronautical and Maritime Search and Rescue Manual, COMDTINST M16130.2 (series)</i> 	100
BOSAR-01-02-ANY	Team Coordination Training (TCT)	<ul style="list-style-type: none"> None assigned 	

TASK BOSAR-01-01-ANY: Crew Fatigue Standards

- The crew fatigue standards are based on a _____ period.
- A _____ shall be sent when a station reaches crew fatigue.
- The maximum crew underway time in seas greater than 4 FT is _____ hours.



Section B. Reading Assignments - Division Two

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:

Task Number	Task Title	Reading Assignment	See Page
BOSAR-02-01-TYPE	State Basic Construction and Design Features of the Boat	<ul style="list-style-type: none"> • <i>Boat Crew Seamanship Manual</i>, COMDTINST M16114.5 (series) 	102
BOSAR-02-02-TYPE	State the Characteristics of, and Set Watertight Integrity Aboard the Boat	<ul style="list-style-type: none"> • <i>Boat Crew Seamanship Manual</i>, COMDTINST M16114.5 (series) 	102
BOSAR-02-03-TYPE	Locate and State the Purpose of Deck Equipment and Fittings Onboard the Boat	<ul style="list-style-type: none"> • <i>Boat Crew Seamanship Manual</i>, COMDTINST M16114.5 (series) • <i>Specific Boat Type Operator's Handbook</i>, COMDTINST M16114 (series) 	102
BOSAR-02-04-TYPE	Locate Installed Engineering and Propulsion Equipment and Fittings Onboard the Boat	<ul style="list-style-type: none"> • None assigned 	
BOSAR-02-05-TYPE	Locate Installed Electrical and Electronic Equipment and Fittings Onboard the Boat	<ul style="list-style-type: none"> • None assigned 	
BOSAR-02-06-ANY	Recognize Warning Signs of an Unstable Boat Before Boarding	<ul style="list-style-type: none"> • None assigned 	



TASK BOSAR-02-01-TYPE: State Basic Construction and Design Features of the Boat

1. The hull consists of a _____ framework and a skin or shell plating.
 2. As a displacement hull moves through the water, the water _____ at the bow and then closes behind it.
 3. With enough speed, the planing hull is _____ up onto the surface of the water.
 4. Once the boat is planing, the power must be decreased _____ to move the boat from the planing mode to the displacement mode.
 5. The _____ is the backbone of the boat.
 6. Transverse frames extend _____ and are perpendicular to the keel.
 7. With the hatches shut, the space between bulkheads becomes _____.
 8. Net tons refer to the _____ capacity of the boat expressed in tons of 100 cubic FT.
-

TASK BOSAR-02-02-TYPE: State the Characteristics of, and Set Watertight Integrity Aboard the Boat

1. A boat may sustain heavy damage and remain _____, provided watertight integrity is maintained.
 2. Doors, hatches, and scuttle covers must be _____ while the boat is underway and while it is moored and unattended by crewmembers.
 3. Watertight closures must have clean, bright, unpainted, smooth _____ for the gaskets to press against.
 4. Small openings to water and fuel tanks, as well as void spaces, are called _____.
 5. Watertight doors and hatches, having individually opened dogs, should be opened starting with the dog _____ the hinges.
-

TASK BOSAR-02-03-TYPE: Locate and State the Purpose of Deck Equipment and Fittings Onboard the Boat

1. The complete list of each piece of equipment required onboard a boat is contained in a document called the _____.
 2. Chafing chain assists in preventing chafing of the _____ on the bottom.
 3. Chafing gear is used to protect the _____ line.
 4. Personnel survival kits are used by _____ in the event of capsizing or man overboard.
-



Section C. Reading Assignments - Division Three

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:

Task Number	Task Title	Reading Assignment	See Page
BOSAR-03-01-ANY	State the Forces that Affect Boat Handling	<ul style="list-style-type: none"> Boat Crew Seamanship Manual, COMDTINST M16114.5 (series) 	105
BOSAR-03-02-ANY	State the Basic Principles of Boat Handling	<ul style="list-style-type: none"> Boat Crew Seamanship Manual, COMDTINST M16114.5 (series) 	105
BOSAR-03-03-TYPE	State the Operational Characteristics and Limitations of the Boat	<ul style="list-style-type: none"> None assigned 	
BOSAR-03-04-TYPE	Locate and State the Characteristics of the Components and Accessories of the Boat's Propulsion System	<ul style="list-style-type: none"> None assigned 	
BOSAR-03-05-TYPE	Energize the Electrical and Electronic Systems on the Boat	<ul style="list-style-type: none"> None assigned 	
BOSAR-03-06-TYPE	Conduct a Pre-Start Checkoff for the Boat	<ul style="list-style-type: none"> None assigned 	
BOSAR-03-07-TYPE	Start the Boat	<ul style="list-style-type: none"> None assigned 	
BOSAR-03-08-TYPE	Conduct a Pre-Underway Checkoff for the Boat	<ul style="list-style-type: none"> Boat Crew Seamanship Manual, COMDTINST M16114.5 (series) Specific Boat Type Operator's Handbook, COMDTINST M16114 (series) 	106
BOSAR-03-10-TYPE	Conduct a Normal Cruising Checkoff	<ul style="list-style-type: none"> None assigned 	
BOSAR-03-11-TYPE	Secure the Boat After Operations	<ul style="list-style-type: none"> None assigned 	
BOSAR-03-12-TYPE	Get the Boat Away from a Pier	<ul style="list-style-type: none"> Boat Crew Seamanship Manual, COMDTINST M16114.5 (series) 	106
BOSAR-03-13-TYPE	Maneuver the Boat in Tight Quarters	<ul style="list-style-type: none"> Boat Crew Seamanship Manual, COMDTINST M16114.5 (series) 	106
BOSAR-03-14-TYPE	Come About in a Narrow Channel	<ul style="list-style-type: none"> Boat Crew Seamanship Manual, COMDTINST M16114.5 (series) Specific Boat Type Operator's Handbook, COMDTINST M16114 (series) 	106
BOSAR-03-15-TYPE	Operate the Boat and Apply Its Handling Characteristics in a Following Sea	<ul style="list-style-type: none"> Boat Crew Seamanship Manual, COMDTINST M16114.5 (series) 	106
BOSAR-03-16-TYPE	Maneuver in Heavy Weather	<ul style="list-style-type: none"> Boat Crew Seamanship Manual, COMDTINST M16114.5 (series) 	107
BOSAR-03-17-TYPE	Maneuver in Rivers	<ul style="list-style-type: none"> Boat Crew Seamanship Manual, 	107



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Task Number	Task Title	Reading Assignment	See Page
		COMDTINST M16114.5 (series)	
BOSAR-03-18-TYPE	Identify Heavy Weather Terms	<ul style="list-style-type: none"> • <i>Boat Crew Seamanship Manual, COMDTINST M16114.5 (series), Heavy Weather Addendum</i> 	107
BOSAR-03-19-TYPE	Correct for Hard Chine Lock-Up	<ul style="list-style-type: none"> • None assigned 	
BOSAR-03-20-TYPE	Moor the Boat	<ul style="list-style-type: none"> • <i>Boat Crew Seamanship Manual, COMDTINST M16114.5 (series)</i> 	108
BOSAR-03-21-TYPE	Anchor the Boat	<ul style="list-style-type: none"> • <i>Boat Crew Seamanship Manual, COMDTINST M16114.5 (series)</i> 	108
BOSAR-03-22-TYPE	Weigh the Boat's Anchor	<ul style="list-style-type: none"> • <i>Boat Crew Seamanship Manual, COMDTINST M16114.5 (series)</i> 	108



TASK BOSAR-03-01-ANY: State the Forces that Affect Boat Handling

1. A boat has two principle types of stability, _____ and _____.
 2. The center of gravity is fixed for stability and does not shift unless weight is _____, _____ or _____.
 3. A _____ moment is the force tending to return the boat to an even keel.
 4. The _____ characteristic of a boat depends upon the hull shape.
 5. When a tidal current is going out, it is called the _____; it will build up a _____ sea when running across a bar.
 6. Currents are _____ movements of water.
 7. When running against the current maneuverability _____, the closer the current is on the bow.
 8. The direction toward which a current flows is called the _____.
 9. The speed of a current expressed in knots is called the _____.
 10. An eddy is a _____ motion of water in or beside the main current.
 11. Waves are generated as a result of the _____ moving over the water's surface.
 12. Breaking waves are the most _____ kind of waves encountered in boat operations.
 13. The difference between the distance a propeller should advance a boat in one revolution and the distance it actually travels is called _____.
 14. The flow of water caused by the propeller is called _____ current.
-

TASK BOSAR-03-02-ANY: State the Basic Principles of Boat Handling

1. On a single screw boat, with sternway on and the rudder amidships, the stern will back to _____.
 2. On a single screw boat, when commencing forward motion with no way on, the side force will throw the stern to _____.
 3. Boats are usually under better control with _____.
 4. High freeboard causes a boat to be susceptible to the _____ of the wind.
 5. The distance the boat will travel after the engine has been disengaged is called _____.
 6. Whenever possible, for control, approach a dock into the wind and on the _____ side of the dock.
 7. On a twin screw boat, the starboard screw is _____-handed and the port screw is _____-handed.
 8. On a twin screw boat, with the port screw astern and the starboard screw stopped, the stern will go to _____.
 9. On a twin screw boat, with the port screw astern and the starboard screw ahead, the boat will pivot in a _____ direction.
 10. On a twin screw boat, the effects of a leeway can be overcome by increasing the RPMs of the _____ engine.
-



TASK BOSAR-03-08-TYPE: Conduct a Pre-Underway Checkoff for the Boat

1. When briefing the crew, the Coxswain/Boat Operator should explain the _____ of the mission.
 2. Before getting underway, the Coxswain/Boat Operator should ensure that all _____ gear is secured and the boat is secured for sea.
 3. All necessary _____ for the mission should be onboard.
 4. The Engineer should make checks and report the results to the _____.
 5. Engine controls should be tested in both _____ and _____, and the reaction time should be noted.
-

TASK BOSAR-03-12-TYPE: Get the Boat Away from a Pier

1. When clearing with a single screw boat and no wind or current, the Coxswain/Boat Operator puts the engine ahead with the rudder at amidships, moves ahead slowly, and applies right or left rudder _____.
 2. When clearing with a single screw boat while being set against the dock, and after the stern is clear, the Coxswain/Boat Operator should cast off the _____ spring line and shift the rudder.
 3. When clearing with a twin screw boat, port side to, and no wind or current, go ahead on the starboard engine and _____ on the port with _____ full rudder until the stern clears the dock.
 4. When clearing with a twin screw boat, starboard side to, while being set against the dock, and after the stern is clear, the _____ spring line is cast off.
-

TASK BOSAR-03-13-TYPE: Maneuver the Boat in Tight Quarters

1. With a single screw boat moored port side to, after throwing the stern out, the Coxswain/Boat Operator should pull the throttle into _____ and _____ the rudder to right full.
 2. The basic process should be _____ until clear.
-

TASK BOSAR-03-14-TYPE: Come About in a Narrow Channel

1. The effect of current that causes the boat to veer off from the near bank when traveling in a straight line is called _____ cushion.
 2. The force that has the effect of moving the stern into the bank is called bank _____.
 3. The combined effect of bank cushion and bank suction may cause a boat to veer off toward the _____ bank.
 4. Bank cushion and bank suction are strongest when the bank of a channel is _____.
 5. With a head current, the best position from which to begin a turn is the _____ of the channel.
-

TASK BOSAR-03-15-TYPE: Operate the Boat and Apply Its Handling Characteristics in a Following Sea

1. The average sea runs _____ to _____ KTS.
 2. If white water is gaining astern, the Coxswain/Boat Operator must either gain _____ before the water reaches the boat or get the _____ into it with headway.
 3. With an MLB, the Coxswain/Boat Operator should take care to steer _____ any tendency of the stern to slip sideways.
-



TASK BOSAR-03-16-TYPE: Maneuver in Heavy Weather

1. The _____ is the up and down motion of the bow or stern.
 2. The _____ is the side-to-side motion as each side goes up and down.
 3. The vertical motion the entire boat makes is the _____.
 4. Look and drive for the path of _____.
 5. Keep one hand constantly on the _____.
 6. Try to avoid the _____ gusts.
 7. Maneuver only to keep a _____ aspect to the weather.
-

TASK BOSAR-03-17-TYPE: Maneuver in Rivers

1. Bank cushion occurs only when operating in _____ to the bank.
 2. _____ is the horizontal flow or movement of water in a river.
 3. In extremely narrow channels where bank cushion and bank suction are expected, proceed at a very _____.
 4. _____, _____ and _____ are factors that affect a boat's turn in a sharp bend or narrow channel.
-

TASK BOSAR-03-18-TYPE: Identify Heavy Weather Terms

1. In heavy weather, _____ is the key to running the safest operations possible.
 2. The factors which determine the characteristics of wind waves are:
 - a. _____
 - b. _____
 - c. _____
 3. The _____ period in a wave system is the safest time to transit a bar, inlet, or shoal area in heavy seas/surf.
 4. The four methods of estimating wave height are:
 - a. Compare with floating structures/vessels
 - b. _____
 - c. Compare with fixed structures
 - d. _____.
 5. The _____ is defined as the section of a wave that carries the most potential energy.
 6. It is preferable to drive a boat in the _____ if possible, thus avoiding the _____.
 7. _____ occur when a wave breaks from the ends toward the middle, or two waves _____ forward of each other.
 8. Driving on the _____ can be particularly useful in a narrow surf zone because it allows you to drive very close to a break relatively safely.
-



TASK BOSAR-03-20-TYPE: Moor the Boat

1. If the wind or current is from astern, a _____ spring line is used instead of a bow spring line.
 2. When mooring a single screw boat, with no wind or current, the Coxswain/Boat Operator should make his approach using an angle of approximately _____.
 3. When mooring a single screw boat from leeward, against the current, the Coxswain/Boat Operator should make his approach using a _____ angle.
 4. When mooring a twin screw boat, the Coxswain/Boat Operator should use as _____ an angle as safely possible.
 5. Wind will cause the bow of the boat to _____ off.
-

TASK BOSAR-03-21-TYPE: Anchor the Boat

1. When selecting an anchorage, shallow water is preferred because a given amount of line will provide better _____ and reduce the _____ of the circle of swing.
 2. When approaching the anchorage, if possible, head _____ the wind or current.
 3. The scope of the anchor line used should be _____ to _____ times the depth of the water to be anchored in calm water.
 4. When letting go, the anchor line should be tended directly from the _____.
 5. While anchored, keep a _____ posted at all times.
-

TASK BOSAR-03-22-TYPE: Weigh the Boat's Anchor

1. When approaching the anchor, the slack in the line should be taken up _____ to prevent fouling the screw(s).
 2. When the anchor line is tending _____, the anchor will normally break free from the bottom.
 3. If the anchor refuses to break free, _____ the line around the forward bitt and go forward a few feet.
 4. If the anchor still won't break free, move slowly in a wide circle to change the _____ of pull.
-



Section D. Reading Assignments - Division Four

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:

Task Number	Task Title	Reading Assignment	See Page
BOSAR-04-01-ANY	Successfully Complete the Navigation Rules Requirements for both Advancement and Coxswain/Boat Operator Certification	<ul style="list-style-type: none">• None assigned	



Section E. Reading Assignments - Division Five

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:

Task Number	Task Title	Reading Assignment	See Page
BOSAR-05-01-ANY	Identify Navigational Publications	<ul style="list-style-type: none"> None assigned 	
BOSAR-05-02-ANY	Determine a Compass Course from a True Course	<ul style="list-style-type: none"> <i>Boat Crew Seamanship Manual</i>, COMDTINST M16114.5 (series) 	111
BOSAR-05-03-ANY	Pilot the Boat Using Dead Reckoning (DR) Techniques	<ul style="list-style-type: none"> <i>Boat Crew Seamanship Manual</i>, COMDTINST M16114.5 (series) 	111
BOSAR-05-04-ANY	Pilot a Boat Using “Seaman’s Eye”	<ul style="list-style-type: none"> None assigned 	
BOSAR-05-05-TYPE	Operate the GPS/DGPS	<ul style="list-style-type: none"> None assigned 	
BOSAR-05-06-TYPE	Determine the location of a Boat Using GPS/DGPS	<ul style="list-style-type: none"> None assigned 	
BOSAR-05-07-TYPE	Pilot a Boat Using GPS/DGPS	<ul style="list-style-type: none"> None assigned 	
BOSAR-05-08-TYPE	Operate the Radar	<ul style="list-style-type: none"> None assigned 	
BOSAR-05-09-TYPE	Determine the Location of a Boat Using Radar Ranges and Bearings	<ul style="list-style-type: none"> <i>Boat Crew Seamanship Manual</i>, COMDTINST M16114.5 (series) 	111
BOSAR-05-10-ANY	Conn a Boat Using Radar	<ul style="list-style-type: none"> None assigned 	
BOSAR-05-11-TYPE	Operate Electronic Charting	<ul style="list-style-type: none"> None assigned 	
BOSAR-05-12-ANY	Pilot a Boat Using all Electronic Equipment, a Navigation Kit, Charts, and Tables	<ul style="list-style-type: none"> None assigned 	
BOSAR-05-13-TYPE	Operate, Determine the Location of, and Pilot a Non-Standard Boat Using GPS/DGPS	<ul style="list-style-type: none"> None assigned 	
BOSAR-05-14-TYPE	Operate the Autopilot	<ul style="list-style-type: none"> None assigned 	
BOSAR-05-15-ANY	Distance, Speed, and Time	<ul style="list-style-type: none"> <i>Boat Crew Seamanship Manual</i>, COMDTINST M16114.5 (series)<i>D</i> 	111
BOSAR-05-16-ANY	Demonstrate Plotting a Position Using LORAN-C Time Difference (TD) Coordinates	<ul style="list-style-type: none"> None assigned 	



TASK BOSAR-05-02-ANY: Determine a Compass Course from a True Course

1. The compass reading must be corrected for _____ and _____.
 2. Variation is the difference in degrees between the directions to the _____ and true north poles.
 3. The amount the compass is deflected by magnetic influences of the boat itself is called _____.
 4. Deviation varies for different _____ you steer.
 5. To apply compass error, either _____ or _____ your course or direction.
 6. Apply _____ to the compass course to get the magnetic course and then apply _____ to the magnetic course to get the true course.
 7. When correcting you must add _____ errors and _____ westerly errors.
-

TASK BOSAR-05-03-ANY: Pilot the Boat Using Dead Reckoning (DR) Techniques

1. Dead reckoning is the process of determining a boat's position by applying its course, speed, and time from its _____ known position.
 2. The key elements of dead reckoning are the course steered and the distance traveled without _____ to current, wind, or other external forces.
 3. Only courses _____ are used to determine a DR.
 4. DR plots should be labeled at least every _____ and at every _____ or _____ change.
 5. A new course should be plotted from every _____ as it has been determined thus starting a new DR plot.
-

TASK BOSAR-05-09-TYPE: Determine the Location of a Boat Using Radar Ranges and Bearings

1. The line of _____ is common to all methods of piloting.
 2. If you have a single LOP, you know you are _____ on that line.
 3. An ideal fix is one having _____ or more LOPs.
 4. LOPs should always be taken on objects close to the boat as minor errors are magnified as you _____ your distance from the object.
 5. Radar fixes, no matter how they are determined, are plotted in the same manner as _____ fixes.
 6. Care should be taken when using radar _____ information only.
-

TASK BOSAR-05-15-ANY: Distance, Speed, and Time

1. _____, _____ and _____ are critical elements in navigational calculations.
 2. Distance is measured in _____.
 3. Speed is measured in _____.
 4. Time is measured in _____.
-



Section F. Reading Assignments - Division Six

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:

Task Number	Task Title	Reading Assignment	See Page
BOSAR-06-04-ANY	Plot the Following Search Patterns: Expanding Square (SS), Sector (VS)	<ul style="list-style-type: none"> None assigned 	114
BOSAR-06-05-ANY	Plot the Following Search Patterns: Parallel (PS), Creeping Line (CS), Track Line Non-Return (TSN), and Track Line Return (TSR)	<ul style="list-style-type: none"> <i>Boat Crew Seamanship Manual</i>, COMDTINST M16114.5 (series) Coast Guard Institute SAR Fundamentals Course 0431 <i>GPS Operator's Handbook</i> <i>Radar Operator's Handbook</i> <i>U.S. Coast Guard Addendum to the United States National Search and Rescue Supplement (NSS) to the International Aeronautical and Maritime Search and Rescue Manual</i>, COMDTINST M16130.2 (series) 	114
BOSAR-06-06-ANY	Execute a Single Unit Expanding Square Search (SS) Pattern	<ul style="list-style-type: none"> <i>Boat Crew Seamanship Manual</i>, COMDTINST M16114.5 (series) Coast Guard Institute SAR Fundamentals Course 0431 <i>GPS Operator's Handbook</i> <i>Radar Operator's Handbook</i> <i>U.S. Coast Guard Addendum to the United States National Search and Rescue Supplement (NSS) to the International Aeronautical and Maritime Search and Rescue Manual</i>, COMDTINST M16130.2 (series) 	114
BOSAR-06-07-ANY	Execute a Single Unit Sector Search (VS) Pattern	<ul style="list-style-type: none"> <i>Boat Crew Seamanship Manual</i>, COMDTINST M16114.5 (series) Coast Guard Institute SAR Fundamentals Course 0431 <i>GPS Operator's Handbook</i> <i>Radar Operator's Handbook</i> <i>U.S. Coast Guard Addendum to the United States National Search and Rescue Supplement (NSS) to the International Aeronautical and Maritime Search and Rescue Manual</i>, COMDTINST M16130.2 (series) 	115
BOSAR-06-08-ANY	Execute a Single Unit Parallel Search (PS) Pattern	<ul style="list-style-type: none"> <i>Boat Crew Seamanship Manual</i>, COMDTINST M16114.5 (series) 	115



Task Number	Task Title	Reading Assignment	See Page
		<ul style="list-style-type: none"> • Coast Guard Institute SAR Fundamentals Course 0431 • <i>GPS Operator's Handbook</i> • <i>Radar Operator's Handbook</i> • <i>U.S. Coast Guard Addendum to the United States National Search and Rescue Supplement (NSS) to the International Aeronautical and Maritime Search and Rescue Manual, COMDTINST M16130.2 (series)</i> 	
BOSAR-06-09-ANY	Execute a Single Unit Creeping Line Search (CS) Pattern	<ul style="list-style-type: none"> • <i>Boat Crew Seamanship Manual, COMDTINST M16114.5 (series)</i> • Coast Guard Institute SAR Fundamentals Course 0431 • <i>GPS Operator's Handbook</i> • <i>Radar Operator's Handbook</i> • <i>U.S. Coast Guard Addendum to the United States National Search and Rescue Supplement (NSS) to the International Aeronautical and Maritime Search and Rescue Manual, COMDTINST M16130.2 (series)</i> 	115
BOSAR-06-10-ANY	Execute a Single Unit Track Line Non-Return Search (TSN) Pattern	<ul style="list-style-type: none"> • <i>Boat Crew Seamanship Manual, COMDTINST M16114.5 (series)</i> • Coast Guard Institute SAR Fundamentals Course 0431 • <i>GPS Operator's Handbook</i> • <i>Radar Operator's Handbook</i> • <i>U.S. Coast Guard Addendum to the United States National Search and Rescue Supplement (NSS) to the International Aeronautical and Maritime Search and Rescue Manual, COMDTINST M16130.2 (series)</i> 	115
BOSAR-06-11-ANY	Execute a Single Unit Track Line Return Search (TSR) Pattern	<ul style="list-style-type: none"> • <i>Boat Crew Seamanship Manual, COMDTINST M16114.5 (series)</i> • Coast Guard Institute SAR Fundamentals Course 0431 • <i>GPS Operator's Handbook</i> • <i>Radar Operator's Handbook</i> • <i>U.S. Coast Guard Addendum to the United States National Search and Rescue Supplement (NSS) to the International Aeronautical and Maritime Search and Rescue Manual, COMDTINST M16130.2 (series)</i> 	115



TASK BOSAR-06-05-ANY: Plot the Following Search Patterns: Parallel (PS), Creeping Line (CS), Track Line Non-Return (TSN), and Track Line Return (TSR)

1. The Coast Guard is responsible for search and rescue in the _____ region.
 2. The _____ is responsible for coordinating and controlling a specific SAR mission at the scene of the incident.
 3. The most important items of information to initially record are the nature of distress and its _____.
 4. The _____ phase is assigned anytime apprehension exists for the safety of a boat or the people aboard the boat.
 5. The term _____ refers to the probable location of the distressed craft corrected for drift at any moment of time.
 6. The search area must be large enough to ensure that survivors are _____ in it.
 7. A search description, using the corner method, gives the latitude and longitude of each _____.
 8. A search description, using the _____ method, uses two or more landmarks as boundaries for the search.
 9. Sweep width is a function of the environmental conditions in the search area and how those conditions affect _____.
 10. Track spacing is the _____ between adjacent search tracks.
 11. The pattern used when the only information available is the intended track of the target is the _____ pattern.
-

TASK BOSAR-06-06-ANY: Execute a Single Unit Expanding Square Search (SS) Pattern

1. The _____ is used when the last known position of a search object has a high degree of accuracy, the search area is small, and a concentrated search is desirable.
 2. In the SS Pattern, the first leg is normally in the direction of the search object's drift and all turns are made _____ degrees to starboard.
-



TASK BOSAR-06-07-ANY: Execute a Single Unit Sector Search (VS) Pattern

1. The VS Pattern is used by a _____ boat.
 2. The first leg begins in the _____ direction that the search object is drifting toward.
-

TASK BOSAR-06-08-ANY: Execute a Single Unit Parallel Search (PS) Pattern

1. The PS search pattern is used when the search area is _____ and there is equal probability of the target being anywhere in the _____.
 2. The search legs are _____ to the search area's _____.
-

TASK BOSAR-06-09-ANY: Execute a Single Unit Creeping Line Search (CS) Pattern

1. The CS pattern is used when the _____ of the search object has been determined to be more likely at one end of the search area than at the other end.
 2. CS patterns are the same as parallel patterns with the exception that the _____ are run parallel to the short side.
-

TASK BOSAR-06-10-ANY: Execute a Single Unit Track Line Non-Return Search (TSN) Pattern

1. A TSN search is used when the only information is the search targets _____ or _____.
 2. The TSN is usually the first search action since the _____ may be near its _____ and will be easily seen.
-

TASK BOSAR-06-11-ANY: Execute a Single Unit Track Line Return Search (TSR) Pattern

1. TSR is used to search when the only information available on the missing boat is the _____ of the search object.
 2. In darkness or extremely low visibility, surface search vessels should periodically stop their engines at a selected point in the search area and conduct a _____.
-



Section G. Reading Assignments - Division Seven

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:

Task Number	Task Title	Reading Assignment	See Page
BOSAR-07-01-TYPE	Recover a Person From the Water Using the Direct Pickup Method	<ul style="list-style-type: none"> <i>Boat Crew Seamanship Manual, COMDTINST M16114.5 (series)</i> 	117
BOSAR-07-02-TYPE	Recover a Life-Like Dummy (Oscar) in 2 to 4 FT Seas	<ul style="list-style-type: none"> <i>Boat Crew Seamanship Manual, COMDTINST M16114.5 (series)</i> 	117
BOSAR-07-03-TYPE	Maneuver the Boat Alongside Another Boat, with No Way-On, and Transfer Personnel	<ul style="list-style-type: none"> <i>Boat Crew Seamanship Manual, COMDTINST M16114.5 (series)</i> 	118
BOSAR-07-04-TYPE	Maneuver the Boat Alongside Another Boat, with Way-On, and Transfer Personnel	<ul style="list-style-type: none"> <i>Boat Crew Seamanship Manual, COMDTINST M16114.5 (series)</i> 	118
BOSAR-07-05-TYPE	Maneuver the Boat Alongside a Ship and Transfer Personnel	<ul style="list-style-type: none"> <i>Boat Crew Seamanship Manual, COMDTINST M16114.5 (series)</i> 	118
BOSAR-07-06-ANY	Use a Portable Pump to Dewater a Sinking or Swamped Boat	<ul style="list-style-type: none"> <i>Boat Crew Seamanship Manual, COMDTINST M16114.5 (series)</i> 	118
BOSAR-07-07-TYPE	Maneuver the Boat Alongside or in Close Proximity of a Burning Boat to Transfer Personnel	<ul style="list-style-type: none"> <i>Boat Crew Seamanship Manual, COMDTINST M16114.5 (series)</i> 	119
BOSAR-07-08-TYPE	Use an Eductor to Dewater a Sinking or Swamped Boat	<ul style="list-style-type: none"> <i>Boat Crew Seamanship Manual, COMDTINST M16114.5 (series)</i> 	119
BOSAR-07-09-ANY	Attend a Static Display Given by a CG Helicopter Air Crew	<ul style="list-style-type: none"> <i>Boat Crew Seamanship Manual, COMDTINST M16114.5 (series)</i> 	120
BOSAR-07-10-TYPE	Participate in a Basket Hoist Using the Direct Delivery Method	<ul style="list-style-type: none"> <i>Boat Crew Seamanship Manual, COMDTINST M16114.5 (series)</i> 	120
BOSAR-07-11-TYPE	Participate in a Basket Hoist Using the Trail Line Delivery Method	<ul style="list-style-type: none"> <i>Boat Crew Seamanship Manual, COMDTINST M16114.5 (series)</i> 	121
BOSAR-07-12-TYPE	Participate in a Rescue Swimmer Transfer Using the Rescue Strop	<ul style="list-style-type: none"> <i>Boat Crew Seamanship Manual, COMDTINST M16114.5 (series)</i> 	121
BOSAR-07-13-TYPE	Demonstrate the Appropriate Responses to the Basic Engineering Casualty Control Exercises (BECCE)	<ul style="list-style-type: none"> None assigned 	



TASK BOSAR-07-01-TYPE: Recover a Person From the Water Using the Direct Pickup Method

1. The first person to realize someone has fallen overboard should spread the _____.
 2. After “Man Overboard” is called, the Coxswain/Boat Operator should depress the MOB button on the _____ receiver.
 3. A _____
 4. _____ with a strobe light should be dropped over the side.
 5. The Coxswain/Boat Operator should normally turn the boat in the _____ the man fell overboard.
 6. Another option, particularly in a restricted waterway, is to stop, _____ and _____, then return to the person in water (PIW).
 7. If weather conditions permit, a _____ should position himself at the cabin window.
 8. A _____ / _____ crewmember will be assigned to prepare to retrieve the person from the water.
 9. There are two basic approaches: a _____ approach and a _____ approach.
 10. Generally, the Coxswain/Boat Operator will maneuver the boat to the _____ side of the PIW so that the boat will be set _____ the PIW.
 11. The Coxswain/Boat Operator should slow the boat as the approach is made so that it will be nearly _____ when the person overboard comes abeam.
 12. The determining conditions for selecting a recovery method is whether the PIW is conscious, _____, or _____.
 13. In heavy weather or surf conditions, the approach should be made heading _____ the seas.
-

TASK BOSAR-07-02-TYPE: Recover a Life-Like Dummy (Oscar) in 2 to 4 FT Seas

1. After “Man Overboard” is called, the Coxswain/Boat Operator should then push the memory button on the _____ or _____ receiver.
 2. A _____ with a strobe light should be thrown over the side towards the person in the water.
 3. A _____ should be positioned on or near the bow of the boat.
 4. There are two basic approaches: a _____ approach and a _____ approach.
 5. Another option, particularly in a restricted waterway, is to stop, _____ and _____, then return to the PIW.
-



TASK BOSAR-07-03-TYPE: Maneuver the Boat Alongside Another Boat, with No Way-On, and Transfer Personnel

1. When determining approach, consider prevailing _____ and _____, location, _____ sizes and _____ density. Discuss your intentions with the other _____.
 2. If going alongside a disabled boat or one that is underway but dead-in-the-water, compare _____.
 3. When approaching a larger boat with a low drift rate, approach from _____.
 4. If approaching a _____ boat, determine if your boat makes a wind shadow that will _____ the other boat's drift.
-

TASK BOSAR-07-04-TYPE: Maneuver the Boat Alongside Another Boat, with Way-On, and Transfer Personnel

1. Conditions permitting, match your _____ to the other boat, then start closing in from the side.
 2. Close at a _____ to _____ ° angle to the boat's heading.
 3. Make contact with the _____ section of your boat.
 4. Minimize _____ alongside.
 5. Never _____ when clearing alongside, parallel to another boat that is making way.
-

TASK BOSAR-07-05-TYPE: Maneuver the Boat Alongside a Ship and Transfer Personnel

1. A _____ may be used in coming alongside a larger boat underway. The sea painter is a line used to _____ a boat clear of a ship's side and occasionally to hold a boat alongside a ship in order to _____ or _____ personnel.
 2. The sea painter leads from the _____ vessels deck, well forward of where the boat will come alongside.
 3. Never secure the sea painter to the boat's _____ or to the side of the boat away from the ship. If secured to the outboard side of the boat, _____ could result.
 4. Riding a sea painter helps maintain _____ and control of the boat.
-

TASK BOSAR-07-06-ANY: Use a Portable Pump to Dewater a Sinking or Swamped Boat

1. A Coxswain/Boat Operator should always brief crewmembers on what _____ to follow before beginning to dewater a disabled boat.
 2. _____ of the crew is the first priority.
 3. Once a source of flooding has been determined, crewmembers may take steps to _____ into the boat.
 4. The distressed boat should not be boarded if it seems _____ and could possibly _____.
 5. How to dewater a boat depends on _____ that exist at the scene.
-



6. Dewatering with a drop pump is done with the pump placed on the _____ boat.
7. When secured in its watertight container, a _____ can easily be passed from one boat to another.
8. Dewatering pumps will not be used to pump _____.

TASK BOSAR-07-07-TYPE: Maneuver the Boat Alongside or in Close Proximity of a Burning Boat to Transfer Personnel

1. As a boat crewmember, your primary responsibility in emergency assistance is _____ not _____. Boat crews must be aware of their limited roles in emergency assistance, particularly when responding to _____.
 2. Boat crewmembers must work together as a _____ to minimize any _____ or immediate jeopardy for both _____ casualties and themselves.
 3. Fire is the greatest single potential for _____ on a boat. The possibility of fire can never be completely _____ and is always a threat to watch for and guard against.
 4. Coxswain/Boat Operators must always stay well clear of _____ rising from a fire because they greatly reduce visibility and can pose a _____ hazard.
 5. Coast Guard personnel shall not engage in _____ fire fighting operations except to save a _____ or in the early stages of a fire, where they may avert a _____ threat without undue risk.
-

TASK BOSAR-07-08-TYPE: Use an Eductor to Dewater a Sinking or Swamped Boat

1. Dewatering with an eductor can be performed only when _____ permit your boat to safely come alongside a disabled boat and remain close to it.
 2. An eductor is used in conjunction with the _____ on your boat.
 3. The eductor is submerged, either _____ or _____, in the flooded area to be dewatered.
 4. Boat crew must always make certain that a _____ leads over the side and a _____ is placed in the flooded areas of a disabled boat.
-



TASK BOSAR-07-09-ANY: Attend a Static Display Given by a CG Helicopter Air Crew

1. Helicopters are flexible _____, capable of recovering victims from a wide variety of distress situations on land or water.
 2. Maximum endurance of the HH-65A Dolphin with a crew of two pilots and one crewmember is approximately _____.
 3. The HH-65A Dolphin can carry a maximum of _____ passengers or survivors in addition to its crew of three.
 4. The HH-65A Dolphin will not land on the water except in an _____. It will float if it is not badly _____ and the flotation bags are _____.
 5. Maximum endurance of the HH-60J Jayhawk with a crew of two pilots and two crewmembers is approximately _____.
 6. The HH-60J Jayhawk will not land in the water except in an emergency. Even with _____, it will stay afloat only long enough for the crew to exit. It is not _____.
 7. The multi-jointed (MJ) _____ is the primary device for hoisting survivors from land or sea during helicopter rescue operations.
 8. The _____ is used to transfer an injured or unconscious person in any weather conditions.
 9. The _____ is used only to rescue persons familiar with its proper use.
 10. Use of a _____ minimizes the time a pilot must maintain a precise stable hover without having a reference point.
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TASK BOSAR-07-10-TYPE: Participate in a Basket Hoist Using the Direct Delivery Method

1. Boat-helicopter operations require team effort, alertness, and cooperation among crewmembers aboard both the _____ and the _____.
 2. Ensure all _____ is properly worn, including head, eye, hearing, and hand protection.
 3. Stow or secure all _____ on deck.
 4. Lower and secure all antennas, booms, rigging, and _____.
 5. Designate one boat crewmember to give _____ to the hoist operator.
 6. Brief the crew and _____ to be _____ regarding the type of hoist to be expected.
 7. Always allow the rescue device to contact the boat, water, or _____, before touching it.
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TASK BOSAR-07-11-TYPE: Participate in a Basket Hoist Using the Trail Line Delivery Method

1. The rescue device will be lowered from the _____ side of the aircraft.
 2. The pilot will normally direct the Coxswain/Boat Operator to assume a certain course and speed with a relative wind speed of _____ to _____ KTS and 35 to 45° off the _____ bow.
 3. Boat crewmembers will tend the trail line by _____ method, exerting enough strain to guide the rescue device to the _____ on the deck.
 4. A second crewmember should act as backup and _____ the _____.
 5. Once the trail line is cast off, the Coxswain/Boat Operator will maneuver to _____ and away from the helicopter.
 6. If either the Coxswain/Boat Operator or pilot feels the operation is unsafe, then a _____ should be conducted.
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TASK BOSAR-07-12-TYPE: Participate in a Rescue Swimmer Transfer Using the Rescue Strop

1. The strop will only be used to transfer trained, uninjured _____ personnel in fair weather.
 2. When the person to be hoisted positions the collar under the armpits, a _____ must ensure the safety straps are fastened.
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Section H. Reading Assignments – Division Eight

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:

Task Number	Task Title	Reading Assignment	See Page
BOSAR-08-01-ANY	State General Towing Safety Precautions	<ul style="list-style-type: none"> Boat Crew Seamanship Manual, COMDTINST M16114.5 (series) 	123
BOSAR-08-02-ANY	State the Principle Forces that Affect Boat Towing	<ul style="list-style-type: none"> Boat Crew Seamanship Manual, COMDTINST M16114.5 (series) 	123
BOSAR-08-03-ANY	Inspect the Towline and Associated Hardware	<ul style="list-style-type: none"> Boat Crew Seamanship Manual, COMDTINST M16114.5 (series) 	124
BOSAR-08-04-ANY	Make Preparations for Taking a Boat in Tow	<ul style="list-style-type: none"> Boat Crew Seamanship Manual, COMDTINST M16114.5 (series) 	124
BOSAR-08-05-TYPE	Use a “Heavy Weather” Approach to Take a Boat in Stern Tow	<ul style="list-style-type: none"> Boat Crew Seamanship Manual, COMDTINST M16114.5 (series) 	124
BOSAR-08-06-ANY	Use a Shackle or Skiff Hook Assembly Connection to Take a Boat in Stern Tow	<ul style="list-style-type: none"> Boat Crew Seamanship Manual, COMDTINST M16114.5 (series) 	125
BOSAR-08-07-ANY	Take a Boat in Stern Tow Using a Bridle Connection	<ul style="list-style-type: none"> Boat Crew Seamanship Manual, COMDTINST M16114.5 (series) 	125
BOSAR-08-08-TYPE	Take a Boat in Alongside Tow from a Stern Tow	<ul style="list-style-type: none"> Boat Crew Seamanship Manual, COMDTINST M16114.5 (series) 	125
BOSAR-08-09-TYPE	Moor a Disabled Boat in Alongside Tow to a Float or Pier	<ul style="list-style-type: none"> Boat Crew Seamanship Manual, COMDTINST M16114.5 (series) 	125
BOSAR-08-10-TYPE	Take a Boat at Anchor, Near Shoal Water in Tow	<ul style="list-style-type: none"> None assigned 	



TASK BOSAR-08-01-ANY: State General Towing Safety Precautions

1. All _____ from the disabled boat should be removed if necessary.
 2. The Coxswain/Boat Operator should ensure that all people onboard the boat to be towed have donned their _____.
 3. Heaving lines should be thrown _____ the disabled boat.
 4. _____ should be established and maintained.
 5. Personnel on both boats should be kept clear of the _____.
 6. Towlines should be _____ tended before securing and never secured using _____ hitches.
 7. The breaking strength of all shackles used should be _____ to or _____ than the breaking strength of the towline.
 8. Towlines should always be kept clear of the boat's _____.
 9. Boats beyond the capability of the towing boat should _____ be towed.
 10. Boats should never be towed at speeds beyond the _____ of the craft.
 11. When towing, sudden _____ and _____ should be avoided.
 12. A _____ can be used to prevent yawing of the tow.
 13. If practical, someone on the towed craft should man the _____.
 14. A constant _____ towing should be maintained.
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TASK BOSAR-08-02-ANY: State the Principle Forces that Affect Boat Towing

1. Static forces can be minimized by beginning the tow _____.
 2. Speed should be increased slowly and in the _____ direction as the disabled boat is heading.
 3. Dynamic forces are caused by the _____ force resulting from the boat through the water, the _____ and direction of the wind, and the _____ and direction of the seas.
 4. Friction is created by the movement of the _____ layer through the water.
 5. With a deep draft boat, a high rate of _____ puts severe strain on the deck fittings and the towline.
 6. Shock loading can be reduced by decreasing _____ or increasing the _____.
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TASK BOSAR-08-03-ANY: Inspect the Towline and Associated Hardware

1. A minimum of _____ turns should always be kept on the towline reel.
 2. The towline should be inspected frequently for damage resulting from _____, abrasion, fusing, and snagging.
 3. Heavily used towlines will indicate reduced _____ strength and overloading by its becoming _____ or hard.
 4. The two types of bridles which should not be routinely used are the cabin and the _____ bridles.
 5. To determine wear on wire rope, the Coxswain/Boat Operator must know (1) the original diameter of the wire rope, (2) the present diameter of the wire rope, and (3) the diameter of a _____ wire in one of the _____ of the wire rope.
 6. Bits, cleats, and chocks should be inspected frequently for _____, _____, and working surface smoothness.
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TASK BOSAR-08-04-ANY: Make Preparations for Taking a Boat in Tow

1. In determining towing speed, the primary factor to be considered is the _____ of the boat and its occupants.
 2. To determine the maximum towing speed of a displacement hull boat, use the formula $\text{Speed (in knots)} = 1.34 \times \text{the square root of the _____ at the water line.}$
 3. Safe towing speed is maximum towing speed decreased by at least ____%.
 4. The recommended towing speed for planning hulls is the _____ as for a displacement hull.
 5. All equipment should be assembled and checked for _____.
 6. If boat-to-boat communications cannot be established through installed radio equipment, provide a _____ radio to someone on the distressed craft.
 7. Persons aboard the distressed craft should be directed to _____ their PFDs.
 8. The people on the other board should be _____ on the procedures to be used.
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TASK BOSAR-08-05-TYPE: Use a “Heavy Weather” Approach to Take a Boat in Stern Tow

1. The “heavy weather” approach is used when there is a _____ sea or when the disabled boat’s rate of speed is rapid.
 2. The towing boat crosses the disabled boat’s bow on a heading _____ to it.
 3. This heading should be _____ the seas and wind whenever possible.
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TASK BOSAR-08-06-ANY: Use a Shackle or Skiff Hook Assembly Connection to Take a Boat in Stern Tow

1. The trailer eyebolt is generally located on the _____, or near the _____ of the boat.
 2. To reduce the hazard of injuries to personnel aboard both boats during hookup, a skiff hook assembly, used in conjunction with a _____, is used to make the connection.
 3. The skiff hook assembly is only used with small _____ type boats.
 4. Shackles should only be used in _____ or _____ weather conditions.
 5. After tightening the shackle pin, it should be _____.
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TASK BOSAR-08-07-ANY: Take a Boat in Stern Tow Using a Bridle Connection

1. _____ leg bridles are generally used for towing sailboats.
 2. A _____ should be assigned to the sailboat to assist in the rigging.
 3. The _____ should be visually inspected to ensure it will be able to withstand the stress of towing.
 4. The crewmember on the sailboat should take one _____ turn around the mast and then the bridle to the _____.
-

TASK BOSAR-08-08-TYPE: Take a Boat in Alongside Tow from a Stern Tow

1. The alongside tow is used primarily when maximum _____ is required and preferably in _____ waters.
 2. The tow strap and the backing line reduce the amount of _____, which can occur between boats.
 3. _____ should always be rigged to prevent hull damage.
 4. When shortening tow, a rapid decrease in speed can easily result in the towed boat _____ on your boat so as to present an overtaking or ramming situation.
 5. Back down slowly to remove the slack from the _____ strap.
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TASK BOSAR-08-09-TYPE: Moor a Disabled Boat in Alongside Tow to a Float or Pier

1. When docking, the Coxswain/Boat Operator should _____ speed as slowly as possible to maintain control of the towed boat.
 2. Factors such as wind velocity, current, and height of tide should be evaluated when determining the best _____ of approach and the side of the boat to be moored.
 3. For control approach, _____ the wind and current and moor on the protected side of the _____
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mooring.
