



CHAPTER 1

Coxswain Trainee Study Guide

Introduction

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

The trainee should read the appropriate reading assignment and answer the related questions prior to beginning training in each new task. The mentor 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 – Crew Efficiency Factor	
B	Reading Assignments – Boat Characteristics and Stability	
C	Reading Assignments – Boat Handling	
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E	Reading Assignments – Boat Piloting and Navigation	
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Section A. Reading Assignments – Crew Efficiency Factors

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
COXN-01-01-AUX	Perform Twenty-Eight Hours Underway As Crewmember	None assigned	
COXN-01-02-AUX	Crew Fatigue Standards	Auxiliary Operations Process Guide: Volume I - General/Surface, AOPG 16798.31 (series), Chapter 10, Section L	
COXN-01-03-AUX	Incident Command System	None assigned	

TASK COXN-01-02-AUX: Crew Fatigue Standards

1. Crew fatigue [time computation](#) begins when the crew member reports to the designated place to prepare for a specific mission. Computation of such time ends when the [mission](#) is complete. Ref: [Auxiliary Operations Process Guide: Volume I - General/Surface, AOPG 16798.31 \(series\), Chapter 10, Section L.5. pg:10-41](#)
 2. The maximum Crew Fatigue Time Computation time is [8](#) hours. Ref: [Auxiliary Operations Process Guide: Volume I - General/Surface, AOPG 16798.31 \(series\), Chapter 10, Section L.6. pg:10-42](#)
 3. Crews are recommended to have a minimum of [eight](#) continuous hours of crew rest before assuming alert duty. Ref: [Auxiliary Operations Process Guide: Volume I - General/Surface, AOPG 16798.31 \(series\), Chapter 10, Section L.10 pg:10-43](#)
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Section B. Reading Assignments – Boat Characteristics and Stability

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
COXN-02-01-AUX	State the Operational Characteristics and Limitations of Auxiliary Facility	None Assigned	
COXN-02-02-AUX	State the Geographical Causes of Local Heavy Weather Conditions	None Assigned	
COXN-02-03-AUX	Recognize Warning Signs of An Unstable Vessel	None Assigned	



Section C. Reading Assignments – Boat Handling

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	Reading Assignment	See Page
COXN-03-01- AUX	State the Forces that Affect Boat Handling	Boat Crew Handbook – Seamanship Fundamentals, BCH16114.4 (series)	
COXN-03-02- AUX	State the Basic Principles of Boat Handling	None Assigned	
COXN-03-03-AUX	Complete A Pre-Underway Check-Off For The Facility	None Assigned	
COXN-03-04-AUX	Get the Boat Away from a Pier	Boat Crew Handbook - Boat Operations, BCH 16114.1 (series)	
COXN-03-05-AUX	Trim Tabs (If equipped)	None Assigned	
COXN-03-06-AUX	State the Forces that Affect Boat Handling	None Assigned	
COXN-03-07-AUX	Maneuver in Narrow Channel or in a River	Boat Crew Handbook - Boat Operations, BCH 16114.1 (series))	
COXN-03-08-AUX	Determine The Approach To An Object And Station Keep	None Assigned	
COXN-03-09-AUX	Maneuver the Boat Alongside Another Boat, with No Way-On	Boat Crew Handbook – Seamanship Fundamentals, BCH16114.4 (series)	
COXN-03-10-AUX	Moor the Boat	Boat Crew Handbook - Boat Operations, BCH 16114.1 (series)	
COXN-03-11-AUX	Anchor the Boat	Boat Crew Handbook – Seamanship Fundamentals, BCH16114.4 (series)	
COXN-03-12-AUX	Weigh the Boat’s Anchor	Boat Crew Handbook – Seamanship Fundamentals, BCH16114.4 (series)	



TASK COXN-03-01-AUX: State the Forces that Affect Boat Handling

1. A boat has two principal types of stability, static and dynamic.
Ref: Boat Crew Handbook – Seamanship Fundamentals, BCH16114.4 (series) Chapter 4.A.5. b. page 4-7.
 2. The center of gravity is fixed for stability and does not shift unless weight is added, subtracted, or shifted.
Ref: Boat Crew Handbook – Seamanship Fundamentals, BCH16114.4 (series) Chapter 4.A.1. a. page 4-2.
 3. The force that causes a vessel to return to an even keel, or upright position, is called the vessel's moment.
Ref: Boat Crew Handbook – Seamanship Fundamentals, BCH16114.4 (series) Chapter 4.A.5. page 4-5.
 4. Environmental forces that affect the motion of a vessel are wind, seas, and current.
Ref: Boat Crew Handbook – Seamanship Fundamentals, BCH16114.4 (series) Chapter 6.A.1. page 6-2.
 5. The wind acts upon any portion of the vessel that is above the waterline.
Ref: Boat Crew Handbook – Seamanship Fundamentals, BCH16114.4 (series) Chapter 6.A.2. page 6-3.
 6. Seas are a product of the wind acting on the surface of the water.
Ref: Boat Crew Handbook – Seamanship Fundamentals, BCH16114.4 (series) Chapter 6.A.4. page 6-4.
 7. Seas affect boat handling in various ways, depending on their height and direction and the particular vessel's characteristics.
Ref: Boat Crew Handbook – Seamanship Fundamentals, BCH16114.4 (series) Chapter 6.A.4. page 6-4.
 8. Current acts on a vessel's underwater hull in the same manner as wind pushes on a vessel's superstructure.
Ref: Boat Crew Handbook – Seamanship Fundamentals, BCH16114.4 (series) Chapter 6.A.5. page 6-5.
 9. A one-knot current may affect a vessel to the same degree as a 30-knot wind.
Ref: Boat Crew Handbook – Seamanship Fundamentals, BCH16114.4 (series) Chapter 6.A.5. page 6-5.
 10. The amount of draft a vessel has will determine how much affect current will have.
Ref: Boat Crew Handbook – Seamanship Fundamentals, BCH16114.4 (series) Chapter 6.A.5. NOTE page 6-5.
 11. The coxswain should know how the vessel responds to combinations of wind and current and should determine which one has the greatest effect on the vessel.
Ref: Boat Crew Handbook – Seamanship Fundamentals, BCH16114.4 (series) Chapter 6.A.7. page 6-6.
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TASK COXN-03-04-AUX: Get the Boat Away from a Pier

1. If it becomes necessary to hold position alongside a dock but swing the bow or stern out in order to clear another vessel or obstacle, using a spring line can help to accomplish this. Ref: Boat Crew Handbook – Seamanship Fundamentals, BCH16114.4 (series) Chapter 6.2.d. page 6-72.
 2. The aft spring should be used to “spring out” or move the bow away from the dock. Ref: Boat Crew Handbook – Seamanship Fundamentals, BCH16114.4 (series) Chapter 6.2.d. page 6-72.
 3. The forward spring should be used to “spring out” or move the stern away from the dock. Ref: Boat Crew Handbook – Seamanship Fundamentals, BCH16114.4 (series) Chapter 6.2.d. page 6-72.
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TASK COXN-03-07-AUX: Maneuver in Narrow Channel or in a River

1. Bank cushion tends to push the bow away from the edge of the channel. Ref: Boat Crew Handbook – Seamanship Fundamentals, BCH16114.4 (series) Chapter 6.B.11. page 6-34.
 2. The force that has the effect of moving the stern into the bank is called bank suction. Ref: Boat Crew Handbook – Seamanship Fundamentals, BCH16114.4 (series) Chapter 6.B.11. page 6-34.
 3. The combined effect of bank cushion and bank suction may cause a boat to veer off toward the opposite bank. Ref: Boat Crew Handbook – Seamanship Fundamentals, BCH16114.4 (series) Chapter 6.B.11. page 6-34.
 4. Bank cushion and bank suction are strongest when the bank of a channel is steep. Ref: Boat Crew Handbook – Seamanship Fundamentals, BCH16114.4 (series) Chapter 6.B.11. page 6-34.
 5. Current is the horizontal flow or movement of water in a river. Ref: Boat Crew Handbook – Seamanship Fundamentals, BCH16114.4 (series) Chapter 6.I.4. page 6-113.
 6. Restricted or narrow channels tend to have a venturi effect, in that rushing water squeezes into a passage and accelerates. Ref: Boat Crew Handbook – Seamanship Fundamentals, BCH16114.4 (series) Chapter 6.I.4. page 6-113.
 7. In extremely narrow channels where bank cushion and bank suction are expected, proceed at a very slow speed. Ref: Boat Crew Handbook – Seamanship Fundamentals, BCH16114.4 (series) Chapter 6.I.5. page 6-113.
 8. Bank suction, bank cushion, currents, and wind area are factors that affect a boat's turn in a sharp bend or narrow channel. Ref: Boat Crew Handbook – Seamanship Fundamentals, BCH16114.4 (series) Chapter 6.I.6. page 6-113.
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TASK COXN-03-09-AUX: Maneuver the Boat Alongside Another Boat, with No Way-On

1. When determining approach, consider prevailing [weather](#), [current](#), location, vessel conditions, vessel sizes and [traffic](#) density. Discuss your intentions with the other [vessel's master](#). Ref: Boat Crew Handbook – Seamanship Fundamentals, BCH16114.4 (series) Chapter 6.E.1. page 6-76.
2. If going alongside a disabled boat or one that is underway but dead-in-the-water, compare [relative drift](#) rates. Ref: Boat Crew Handbook – Seamanship Fundamentals, BCH16114.4 (series) Chapter 6.E.1 NOTE. page 6-76.
3. When approaching a larger boat with a low drift rate, approach from [leeward](#). Ref: Boat Crew Handbook – Seamanship Fundamentals, BCH16114.4 (series) Chapter 6.E.1 NOTE. page 6-76.
4. If approaching a [smaller](#) vessel, determine if vessel makes a wind shadow that will [slow](#) the other vessel's drift. Ref: Boat Crew Handbook – Seamanship Fundamentals, BCH16114.4 (series) Chapter 6.E.1 NOTE. page 6-76.

TASK COXN-03-10-AUX: Moor the Boat

1. Spring lines are very useful when mooring with an [off-dock](#) set. . Ref: Boat Crew Handbook – Seamanship Fundamentals, BCH16114.4 (series) Chapter 6.3.h. page 6-74.
2. The coxswain should never attempt to fend a boat off a pier, float, etc., by [hand](#) or by [foot](#), but should always use a [fender](#). Ref: Boat Crew Handbook – Seamanship Fundamentals, BCH16114.4 (series) Chapter 6.3.j. page 6-74.
3. When mooring with an off-dock wind, the approach should be made at a sharp angle [-45°](#) or more. Ref: Boat Crew Handbook – Seamanship Fundamentals, BCH16114.4 (series) Chapter 6.3.k. page 6-74.
4. When mooring with an on-dock wind, the approach should be made [parallel](#) with the intended berth and the [fender](#) should be rigged in appropriate positions. Ref: Boat Crew Handbook – Seamanship Fundamentals, BCH16114.4 (series) Chapter 6.3.l. page 6-74.

TASK COXN-03-11-AUX: Anchor the Boat

1. When approaching the anchorage, if possible, head [into](#) the wind or current. Ref: Boat Crew Handbook – Seamanship Fundamentals, BCH16114.4 (series) Chapter 6.J.11. page 6-125.
2. The [scope](#) is a ratio of the length of rode paid out to the depth of the water. Ref: Boat Crew Handbook – Seamanship Fundamentals, BCH16114.4 (series) Chapter 6.J.14.a. page 6-128.
3. Scope of the anchor rode should have a ratio range between [5:1](#) and [7:1](#) the depth of the water to be anchored in calm water. Ref: Boat Crew Handbook – Seamanship Fundamentals, BCH16114.4 (series) Chapter 6.J.14.a. NOTE page 6-128.
4. An anchor must be set properly if it is to yield its full [holding power](#). Ref: Boat Crew Handbook – Seamanship Fundamentals, BCH16114.4 (series) Chapter 6.J.15. page 6-129.
5. While anchored, keep an [anchor watch](#) posted at all times. Ref: Boat Crew Handbook – Seamanship Fundamentals, BCH16114.4 (series) Chapter 6.J.19. page 6-130.

TASK COXN-03-12-AUX: Weigh the Boat's Anchor

1. When approaching the anchor, go forward [slowly](#) and take in the anchor rode to prevent fouling the propellers. Ref: Boat Crew Handbook – Seamanship Fundamentals, BCH16114.4 (series) Chapter 6.J.20. page 6-131.
 2. When the boat approaches the spot directly over the anchor, and the rode is tending straight [up](#) and [down](#), the anchor will usually free itself from the bottom. Ref: Boat Crew Handbook – Seamanship Fundamentals, BCH16114.4 (series) Chapter 6.J.20. page 6-131.
 3. If the anchor refuses to break free, [snub](#) the line around the forward bitt and go forward a few feet. Ref: Boat Crew Handbook – Seamanship Fundamentals, BCH16114.4 (series) Chapter 6.J.21. page 6-131.
 4. If the anchor still won't break free, move slowly in a wide circle to change the [angle](#) of pull. . Ref: Boat Crew Handbook – Seamanship Fundamentals, BCH16114.4 (series) Chapter 6.J.21. page 6-131.
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Section D. Reading Assignments – Rules of the Road

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
COXN-04-01-AUX	Successfully Complete the Navigation Rules of The Road Exam	None assigned	



Section E. Reading Assignments – Boat Piloting and Navigation

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
COXN-05-01-AUX	Identify Navigational Publications	None assigned	
COXN-05-02-AUX	Sketch A Chart Of The Local Operating Area	None assigned	
COXN-05-03-AUX	Convert True Course to Compass Course	Boat Crew Handbook – Navigation and Piloting, BCH16114.3 (series)	8
COXN-05-04-AUX	Operate the GPS	None assigned	
COXN-05-05-AUX	Configure and Operate Electronic Charting System (ECS) (If Equipped)	None assigned	
COXN-05-06-AUX	Determine the Location of a Boat Using Radar Ranges and Bearings	Boat Crew Handbook – Navigation and Piloting, BCH16114.3 (series)	8
COXN-05-07-AUX	Use RADAR to Determine if Risk of Collision Exists (If Equipped)	None assigned	
COXN-05-08-AUX	Adjust Facility for Set And Drift	None assigned	
COXN-05-09-AUX	Perform a Navigation and Piloting Exercise	None assigned	
COXN-05-10-AUX	River Sailing, (Locks, Dams and Flood Warnings), And Pass Through A Lock	None assigned	

TASK COXN-05-03-AUX: Convert True Course to Compass Course

1. The compass reading must be corrected for [variation](#) and [deviation](#). Ref: Boat Crew Handbook – Navigation and Piloting, BCH16114.3 (series) Chapter 3.D.6. page 3-65
2. Variation is the angular difference, measured in degrees, between [true](#) and magnetic north. Ref: Boat Crew Handbook – Navigation and Piloting, BCH16114.3 (series) Chapter 3.D.7. page 3-66.
3. The amount the compass is deflected by magnetic influences of the boat itself is called [deviation](#). Ref: Boat Crew Handbook – Navigation and Piloting, BCH16114.3 (series) Chapter 3.D.8. page 3-68
4. Deviation varies according to boat [heading](#) being steered. Ref: Boat Crew Handbook – Navigation and Piloting, BCH16114.3 (series) Chapter 3.D.8. page 3-68
5. When correcting you must add [easterly](#) errors and subtract [westerly](#) errors. . Ref: Boat Crew Handbook – Navigation and Piloting, BCH16114.3 (series) Chapter 3.D.12. MEMORY AID page 3-72

TASK COXN-05-06-AUX: Determine the Location of a Boat Using Radar Ranges and Bearings

1. Fixing a boat's position by radar is known as a [three point](#) fix as it measure the bearing (direction) and/or range (distance) from three landmarks. . Ref: Boat Crew Handbook – Navigation and Piloting, BCH16114.3 (series) Chapter 3.E.11. page 3-99
2. The intersection of radar range lines of position, determined using the radar's Variable Range Marker (VRM) function, from three or more prominent points of land or charted fixed objects with a separation of at least [15](#) degrees, confirmed by a depth sounding. Ref: Boat Crew Handbook – Navigation and Piloting, BCH16114.3 (series) Chapter 3.E.11. page 3-99
3. The intersection of radar bearing lines of position, determined using the radar's Electronic Bearing Line (EBL) function, from charted, [fixed](#) objects, confirmed by a depth sounding. Ref: Boat Crew Handbook – Navigation and Piloting, BCH16114.3 (series) Chapter 3.E.11. page 3-99



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4. The primary consideration in selecting charted objects to obtain a radar fix is the angle between the objects. Ref: Boat Crew Handbook – Navigation and Piloting, BCH16114.3 (series) Chapter 3.E.11.a. page 3-99
 5. An ideal fix has three or more LOPs intersecting at a single point and the LOPs have a separation of at least 60°, but not more than 120°. . Ref: Boat Crew Handbook – Navigation and Piloting, BCH16114.3 (series) Chapter 3.E.11.a. page 3-99.
 6. When obtaining radar bearings or ranges, the proper procedure is to shoot the object closest to the boat's beam first because it has the greatest angular velocity relative to the boat and is changing most rapidly. Ref: Boat Crew Handbook – Navigation and Piloting, BCH16114.3 (series) Chapter 3.E.11.b. page 3-100.
 7. Objects toward the bow or stern should be shot last because their angle changes more slowly. Ref: Boat Crew Handbook – Navigation and Piloting, BCH16114.3 (series) Chapter 3.E.11.b. page 3-100.
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Section F. Reading Assignments – Search and Rescue (SAR)

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
COXN-06-01-AUX	Legal Aspects and USCG Policy	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 (IAMSAR), COMDTINST M16130.2 (series)	
COXN-06-02-AUX	State The Basic Concepts Related To Search Planning	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 (IAMSAR), COMDTINST M16130.2 (series)	
COXN-06-03-AUX	Plot one the Following Search Patterns: Parallel (PS), Creeping Line (CS), Track Line Non-Return (TSN), and Track Line Return (TSR)	None Assigned	
COXN-06-04-AUX and COXN-06-05-AUX	Execute A Search Pattern	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 (IAMSAR), COMDTINST M16130.2 (series)	
COXN-06-06-AUX	Obtain Distress Information And Pass To The Controlling Shore Unit	None Assigned	

TASK COXN-06-01-AUX: [Legal Aspects and USCG Policy](#)

1. The CFR states that the CG shall develop, establish, maintain, and operate rescue facilities for the promotion of [safety](#) on, under, and over the high seas and [waters](#) subject to the jurisdiction of the U.S. [Ref: COMDTINST M16130.2 \(series\) Appendix L Table L-1 page L-3.](#)
2. [Distress beacons](#) are one of the most important tools available to SAR authorities. [Ref: COMDTINST M16130.2 \(series\) Chapter 3, para 3.4.4 page 3-33.](#)
3. The Coast Guard's primary concern in a search and rescue situation is to provide [timely](#) and [effective](#) assistance. [Ref: COMDTINST M16130.2 \(series\) Chapter 4, para 4.1.4.2. page 4-7.](#)
4. MARB will be made to solicit the [voluntary response](#) of anyone who can assist the mariner, and the MARB will include a general location of the vessel. If no intent to respond to the MARB is heard within a [reasonable](#) period of time, Coast Guard resources or Auxiliary vessels may be directed to respond. A guideline of [10](#) minutes is recommended for the SMC to await an answer to a MARB before the SMC directs Coast Guard or Auxiliary resources to respond. [Ref: COMDTINST M16130.2 \(series\) Chapter 4, para 4.1.6.3.c. page 4-12.](#)
5. To minimize conflict, if an Auxiliary facility under orders or a Coast Guard resource arrives on scene nearly [simultaneously](#) with a commercial provider, it shall report to the SMC, remain on scene until it is confirmed the provider is capable of providing the required assistance and safely completing the case, then clear the area, and take no further part in the incident. [Ref: COMDTINST M16130.2 \(series\) Chapter 4, para 4.1.6.3.g. page 4-13.](#)
6. When an Auxiliary vessel on routine safety patrol or otherwise on orders discovers a vessel requesting assistance, but not in radio contact with the Coast Guard, the Auxiliarist will relay the request for assistance to the Coast Guard operational commander and [may](#) undertake to provide assistance, if capable. [Ref: COMDTINST M16130.2 \(series\) Chapter 4, para](#)



4.1.6.4. page 4-13.

7. If a tow is undertaken, the Auxiliary vessel is [required](#) to notify the operational commander of the identity of the vessel, the location of the vessel, and the destination to which the vessel is being towed. Ref: COMDTINST M16130.2 (series) Chapter 4, para 4.1.6.4. page 4-14.
8. If the Auxiliary vessel cannot [safely tow](#) a disabled vessel that is standing into danger, it may endeavor to remove the persons from the threatened vessel and stand by until a more capable resource arrives on scene. Ref: COMDTINST M16130.2 (series) Chapter 4, para 4.1.6.4. page 4-14.
9. In cases involving towing by the Coast Guard or Coast Guard Auxiliary, the vessel being assisted will normally be taken to the nearest [safe haven](#) that has an available means of [communication](#), normally a telephone. Ref: COMDTINST M16130.2 (series) Chapter 4, para 4.1.6.5. page 4-14.
10. Coast Guard or Auxiliary resources should not tow the vessel beyond the nearest safe haven when there are [commercial](#) resources that could perform this function. Ref: COMDTINST M16130.2 (series) Chapter 4, para 4.1.6.5. page 4-14. Ref: COMDTINST M16130.2 (series) Chapter 4, para 4.1.6.5. page 4-14

TASK COXN-06-02-AUX: State The Basic Concepts Related To Search Planning

1. The three emergency phases are [UNCERTAINTY](#), [ALERT](#), and [DISTRESS](#). Ref: COMDTINST M16130.2 (series) Chapter 4, para 4.1.2.2. page 4-5
 2. The [Alert](#) phase is assigned anytime apprehension exists for the safety of a boat or the people aboard the boat. Ref: COMDTINST M16130.2 (series) Chapter 4, para 4.1.2.2. page 4-5
 3. The ultimate goal of [search planning](#) is to find the survivors of a distress incident as quickly as possible. Ref: COMDTINST M16130.2 (series) Appendix H, para H.1.5. page H-7.
 4. [Sweep width](#) is the width of a swath centered on the SRU's track where the probability of detecting the search object if it is outside of that swath is equal to the probability of missing the search object if it is inside that swath, assuming the distribution of search objects is uniform. Ref: COMDTINST M16130.2 (series) Appendix H, para H.3.5. page H-37.
 5. Track spacing is the [distance](#) between adjacent search tracks. Ref: COMDTINST M16130.2 (series) Appendix H, para H.5.4. page H-92.
 6. For initial response coastal surface PIW searches when the probable error of the PIW's position at CST is estimated to be 0.5 NM or less, a track spacing of [0.1](#) NM or is recommended in the absence of a formal search plan from the cognizant Sector, District, or Area SMC. Ref: COMDTINST M16130.2 (series) Appendix H, para H.5.4.4 page H-93.
 7. [Commence Search Point](#) is the location in the search pattern where the SRU begins searching. . Ref: COMDTINST M16130.2 (series) Appendix H, para H.7.2.1. page H-115.
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TASK COXN-06-04&05-AUX: Execute A Search Pattern

1. [Trackline](#) Patterns are used when the intended route of the search object is known. . Ref: COMDTINST M16130.2 (series) Appendix H, para H.7.3.1. page H-116.
 2. [Parallel](#) patterns are normally used for large, fairly level search areas, where only approximate initial position is known, and when uniform coverage is desired. Ref: COMDTINST M16130.2 (series) Appendix H, para H.7.3.2. page H-117.
 3. [Creeping](#) pattern to cover one end of an area first, or to change direction of the search legs where sun glare or swell direction makes this necessary. . Ref: COMDTINST M16130.2 (series) Appendix H, para H.7.3.3. page H-121.
 4. [Square](#) Patterns are used to search a small area when some doubt exists about the distress position. They provide more uniform coverage than a sector search and may be expanded. Ref: COMDTINST M16130.2 (series) Appendix H, para H.7.3.4. page H-122.
 5. [Sector](#) Patterns may be used when datum is established within close limits, a very high coverage is desired in the immediate vicinity of datum, and the area to be searched is not extensive. Ref: COMDTINST M16130.2 (series) Appendix H, para H.7.3.5. page H-124.
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Section G. Reading Assignments – Rescue and Assistance

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
COXN-07-01-AUX	Man Overboard Evolution (Direct Pickup)	Boat Crew Handbook - Boat Operations, BCH 16114.1 (series)	
COXN-07-02-AUX	Man Overboard Evolution (Indirect Pickup)	None Assigned	
COXN-07-03-AUX	Maneuver the Boat Alongside or in Close Proximity of a Burning Boat to Transfer Personnel	None Assigned	
COXN-07-04-AUX	Demonstrate the Appropriate Responses to the Applicable Basic Engineering Casualty Control Exercises (BECCE)	None Assigned	

TASK COXN-07-01-AUX: Man Overboard Evolution (Direct Pickup)

1. The first person to realize someone has fallen overboard should spread the [alarm](#). Ref: Boat Crew Handbook - Boat Operations, BCH 16114.1 (series) Chapter 4, para A.3. page 4-3.
2. The Coxswain should normally turn the boat in the [same](#) direction the person fell overboard. Ref: Boat Crew Handbook - Boat Operations, BCH 16114.1 (series) Chapter 4, para A.5. page 4-5.
3. After “Man Overboard” is called, the Coxswain should depress the MOB button on the [GPS](#) receiver. Ref: Boat Crew Handbook - Boat Operations, BCH 16114.1 (series) Chapter 4, para A.6. page 4-5.
4. A [ring buoy](#) with a strobe light should be dropped over the side. Ref: Boat Crew Handbook - Boat Operations, BCH 16114.1 (series) Chapter 4, para A.8. page 4-6.
5. The two most common methods for recovering a PIW a [direct](#) approach and an [indirect](#) approach. Ref: Boat Crew Handbook - Boat Operations, BCH 16114.1 (series) Chapter 4, para A.15. page 4-10.
6. There are two basic approaches: a [leeward](#) approach and a [windward](#) approach. Ref: Boat Crew Handbook - Boat Operations, BCH 16114.1 (series) Chapter 4, para A.16. page 4-10.
7. When circumstances and time permit, the coxswain must notify the [Operational Commander](#) of the person-in-the-water situation. Ref: Boat Crew Handbook - Boat Operations, BCH 16114.1 (series) Chapter 4, para A.11. page 4-8.



Section H. Reading Assignments – Towing and Salvage

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
COXN-08-01-AUX	State General Towing Safety Precautions	Boat Crew Handbook - Boat Operations, BCH 16114.1 (series)	
COXN-08-02-AUX	State the Principal Forces that Affect Boat Towing	Boat Crew Handbook - Boat Operations, BCH 16114.1 (series)	
COXN-08-03-AUX	Inspect the Towline and Associated Hardware	Boat Crew Handbook - Boat Operations, BCH 16114.1 (series)	
COXN-08-04-AUX	State the Forces that Affect Boat Handling	None Assigned	
COXN-08-05-AUX	Take a Boat in Alongside Tow from a Stern Tow	Boat Crew Handbook - Boat Operations, BCH 16114.1 (series)	
COXN-08-06-AUX	Moor a Disabled Boat in Alongside Tow to a Float or Pier	Boat Crew Handbook - Boat Operations, BCH 16114.1 (series)	

TASK COXN-08-01-AUX: State General Towing Safety Precautions

- The safety of the crew and the crew of the towed vessel is more important than [property](#), and the primary responsibility in any towing situation is to maintain [safety](#). Ref: Boat Crew Handbook - Boat Operations, BCH 16114.1 (series) Chapter 3, para A.1. page 3-2.
- Towing [mishaps](#) can be prevented by honestly evaluating risks involved in every step of any towing evolution. Ref: Boat Crew Handbook - Boat Operations, BCH 16114.1 (series) Chapter 3, para A.1.a. page 3-2.
- Realistic towing training based on [standardized](#) techniques, [critical](#) analysis, and mission briefing and debriefing will contribute to risk management and the development of a towing risk management plan. Ref: Boat Crew Handbook - Boat Operations, BCH 16114.1 (series) Chapter 3, para A.1.c. page 3-2.
- When throwing heaving lines they should be targeted above the [center](#) of the vessel so the thrown line crosses over the deck and avoids breaking glass or injuring people. Ref: Boat Crew Handbook - Boat Operations, BCH 16114.1 (series) Chapter 3, para B.4.a. page 3-18.
- The Coxswain should ensure that all people onboard the boat to be towed have donned their [PFD's](#). Ref: Boat Crew Handbook - Boat Operations, BCH 16114.1 (series) Chapter 3, para C.6. page 3-33.
- Do not put a [working turn](#) on the bitt until the rig is securely fastened to a tow and POBs are clear of the bow. Ref: Boat Crew Handbook - Boat Operations, BCH 16114.1 (series) Chapter 3, para C.33. page 3-52.
- The maximum safe towing speed formula $S = 1.34 \times Lw$ minus [10%](#) is used to help determine the maximum safe towing speed. [PFD's](#). Ref: Boat Crew Handbook - Boat Operations, BCH 16114.1 (series) Chapter 3, para C.44. page 3-56.

TASK COXN-08-02-AUX: State the Principal Forces that Affect Boat Towing

- [Static](#) forces cause a towed vessel to resist motion. Ref: Boat Crew Handbook - Boat Operations, BCH 16114.1 (series) Chapter 3, para A.2.a. page 3-4.
- [Inertia](#) and the [moment of inertia](#) are two different properties of static forces that cause resistance in towing vessels. . Ref: Boat Crew Handbook - Boat Operations, BCH 16114.1 (series) Chapter 3, para A.2.a. page 3-4.
- Overcome the effects of static forces by starting a tow [slowly](#), both on the initial heading or when changing the towed vessel's heading. Ref: Boat Crew Handbook - Boat Operations, BCH 16114.1 (series) Chapter 3, para A.2.b. page 3-5.
- [Dynamic](#) forces occur once the towed vessel is moving. Ref: Boat Crew Handbook - Boat Operations, BCH 16114.1 (series) Chapter 3, para A.3. page 3-7.



TASK COXN-08-03-AUX: Inspect the Towline and Associated Hardware

1. Safe and efficient towing requires an undamaged, [serviceable towline](#). Ref: Boat Crew Handbook - Boat Operations, BCH 16114.1 (series) Chapter 3, para B.1.b. page 3-14.
 2. Inspect towlines, pendants, and bridles after each [tow](#) and whenever [shock loading](#) has occurred. Ref: Boat Crew Handbook - Boat Operations, BCH 16114.1 (series) Chapter 3, para B.2.c. NOTE page 3-18.
 3. Deck and towing vessel fittings should be inspected on a regular basis to detect [cracks](#), [fractures](#), rust, corrosion, wood rot, fiberglass core softening, or [delamination](#). Ref: Boat Crew Handbook - Boat Operations, BCH 16114.1 (series) Chapter 3, para B.9. page 3-21.
 4. Do not over-stress a [skiff hook](#). Never use one for any operation that exceeds the stress load of towing small, trailerable boats. Ref: Boat Crew Handbook - Boat Operations, BCH 16114.1 (series) Chapter 3, para B.10. WARNING page 3-22
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TASK COXN-08-05-AUX: Take a Boat in Alongside Tow from a Stern Tow

1. If disconnecting the tow, determine [beforehand](#) whether any other part of the rig will stay aboard the towed vessel. Ref: Boat Crew Handbook - Boat Operations, BCH 16114.1 (series) Chapter 3, para C.54. NOTE page 3-68.
 2. The towed vessel should be turned into the [prevailing conditions](#) for better control, making towline recovery easier and safer because there is less towline for the crew to recover and less towline in the water to foul propellers. Ref: Boat Crew Handbook - Boat Operations, BCH 16114.1 (series) Chapter 3, para C.55. page 3-69.
 3. When set up properly, an alongside tow allows [two](#) vessels to be maneuvered as one. Ref: Boat Crew Handbook - Boat Operations, BCH 16114.1 (series) Chapter 3, para C.56. page 3-70.
 4. If the alongside tow occurs at the completion of a stern tow, the coxswain should decide if the towline will be disconnected from the stern tow (the [Drop](#) Tow method); or hauled in while still connected, and used as a bow line for the alongside rig (the [Transition](#) method). Ref: Boat Crew Handbook - Boat Operations, BCH 16114.1 (series) Chapter 3, para C.57.b. page 3-71.
 5. [Hull](#) match is determined by assessing how the two hulls will align alongside. Ref: Boat Crew Handbook - Boat Operations, BCH 16114.1 (series) Chapter 3, para C.57.d. page 3-72.
 6. The Drop Tow approach is made as if mooring to a pier, but the first line over will be the [bow](#) line. . Ref: Boat Crew Handbook - Boat Operations, BCH 16114.1 (series) Chapter 3, para C.58.b. page 3-73.
 7. Once alongside, with the bow line connected, the tow should be positioned so that the towing vessel's propeller(s) and rudder(s) or waterjets are well aft of the towed vessel's [stern](#). Ref: Boat Crew Handbook - Boat Operations, BCH 16114.1 (series) Chapter 3, para C.59. page 3-73.
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TASK COXN-08-06-AUX: Moor a Disabled Boat in Alongside Tow to a Float or Pier

1. When docking, the Coxswain should Anticipate well ahead of time and decrease speed [gradually](#). Ref: Boat Crew Handbook - Boat Operations, BCH 16114.1 (series) Chapter 3, para C.60.a. page 3-75.
 2. Place the [larger](#) vessel against the dock or mooring. Ref: Boat Crew Handbook - Boat Operations, BCH 16114.1 (series) Chapter 3, para C.60.a. page 3-75.
 3. Making an approach into the [wind](#) and [current](#) if possible. Ref: Boat Crew Handbook - Boat Operations, BCH 16114.1 (series) Chapter 3, para C.60.a. page 3-75.
 4. The disabled vessel may use [rudder](#) control to assist in mooring, if practical. Ref: Boat Crew Handbook - Boat Operations, BCH 16114.1 (series) Chapter 3, para C.60.a. page 3-75.
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Section I. Reading Assignments –Auxiliary Specific Tasks

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
COXN-09-01-AUX	Discuss Auxiliary Patrol Commander's Duties (Waiverable by DIRAUX)	None Assigned	
COXN-09-02-AUX	Discuss and Demonstrate knowledge of Policy	None Assigned	
COXN-09-03-AUX	Complete Administrative Tasks (Reports, Orders, Etc.)	None Assigned	
COXN-09-04-AUX	Dockside Oral Exam	None Assigned	
COXN-09-05-AUX	Underway Check Ride	None Assigned	