

9 - Search

Competence (Skills)	Knowledge, Understanding and Proficiency	Level Required		Methods for Demonstrating Competence (Qualification Standard)	Criteria for Evaluating Competence (Performance Standard)
		Coxswain Captain	Crew		
Developing search plans		X	X	<ul style="list-style-type: none"> Describe common search terminology Explain the advantages and disadvantages of various marine search patterns Discuss search patterns for night or restricted visibility Discuss electronic search patterns Discuss the use of pyrotechnics in search operations Synthesize a coastal search plan for the first vessel on scene with a drift of less than 6 hours 	
Search Planning	<p>Plan an appropriate search using relevant mission information, piloting aids, and coordination from other agencies.</p> <p>Determine search areas</p>	X	X	<ul style="list-style-type: none"> Understand all components of search planning, the limitations of the vessel, and possess knowledge of the local area. Have a working knowledge of the other resources available to assist. Define Last Known Position Define Datum 	Have an awareness of the importance of positive expectations, big picture, and the human factors associated with SAR operations.

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				<ul style="list-style-type: none"> Define Leeway Define Total Water Current Define Total Drift Solve Total Water Current using a Datum Marker Buoy Solve a search area for a coastal incident with a drift of less than 6 hours 	
Search Patterns	<ul style="list-style-type: none"> Coordinate plan and conduct an elective open water search with the vessel using any of the following patterns: Expanding square, sector search, barrier search, parallel track, creeping line patterns. Brief the crew, assign jobs such as: timer, helm, pattern watch and spotters. Direct the vessel through smooth course changes and maintain active searching through all sectors. 	X	X	<ul style="list-style-type: none"> Draw the listed search patterns and state their use during a search. List the track spacing leg lengths and courses. List the steps to conducting a vessel through an open water search pattern. 	Keep the vessel on a steady track while monitoring the effectiveness of the spoilers and the vessel track. A thorough coverage of the assigned area must be ensured; any uncertainties will be relayed to JRCC accurately and honestly.
Search Execution	Set vessel up for any search pattern, briefing the crew and assigning search tasks. Maintain control of the crew, vessel, and mission. Adapt to changes conditions, current search information, updated information of crew	X	X	<ul style="list-style-type: none"> Understand all aspects of search execution. Understand the techniques to maintain search effectiveness, 	Ensure crews maintain focus throughout search execution.

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	effectiveness, and oversee and coordinate all search communications.			<p>including human factors and external factors.</p> <ul style="list-style-type: none"> Describe the set-up and conduct of maritime search patterns Organize and assign roles for search activities on own vessel Perform search patterns Evaluate a search plan taking into account operational and environmental factors Evaluate the performance of a search and rescue unit in carrying out its tasking and covering its designated search area SITREP's to the Maritime SAR Coordinator at the JRCC/MRSCQ on the search area covered, search effectiveness and estimated time of completion, along with operational and environmental factors of the search. 	
Vessel Operations for Search Patterns	Each crewmember shall steer the vessel on a search leg and turn the vessel effectively onto	X	X	Each crewmember must be familiar with the legs and shapes of the	<ul style="list-style-type: none"> Each crewmember shall participate in at least one

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	the next course. Each crewmember shall use the throttles to maintain a given vessel speed over the duration of the pattern. Each crewmember shall lime search legs and communicate new courses and signal the turn to the crew member at the helm.			following search patterns: <ul style="list-style-type: none"> • (SS) expanding square • (VS) sector search. • (CSC) creeping line • (PS) parallel sweep 	successful completion of a S8, VS, or P8 search pattern. <ul style="list-style-type: none"> • Each crewmember will act in the role of timing the legs and giving the helm orders, or steering the vessel on the pattern.
Shoreline Search	Each crewmember shall steer the vessel on a shore search and act as spotter in daytime and night conditions.	X	X	Each crewmember shall be familiar with the procedures for a shoreline search.	Each crewmember will act in the role of spotter or steering the vessel under the direction of the coxswain.
Search Spotter Techniques	<ul style="list-style-type: none"> • Personal motivation • Night vision acclimatisation • Scanning techniques • Communication of sighting fatigue Effective scanning movements within the block system are short regular eye movements spaced by two second intervals no more than ten degrees. Two methods of scanning: <ul style="list-style-type: none"> • Side to side • Front to side Using binoculars	X	X	Crewmembers shall be familiar with the vulnerabilities of the eye and influences on vision.	<ul style="list-style-type: none"> • Integrate search spotter techniques into CCGA activities. • Crewmember participates as a spotter in a real or simulated search exercise successfully.
Radar Search	Each crewmember shall use the manufacturer's instructions to:	X	X	<ul style="list-style-type: none"> • Each crewmember should have 	Given an object with a reasonable radar profile the

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	<ul style="list-style-type: none"> • Turn on the radar • Set the range to the appropriate distance • Adjust gain to obtain the best picture • Check auto tuning • Use rain, and sea clutter if necessary. 			<p>demonstrated comprehension and understanding of the limitations and the basic operation of small unstabilized radar.</p> <ul style="list-style-type: none"> • Each crewmember will explain the effects of the following on target detection: <ul style="list-style-type: none"> ○ Distance and detection range (height of antenna) ○ Improper tuning and gain 	<p>crewmember shall:</p> <ul style="list-style-type: none"> • Use the radar to define and identify the reflected contact of the object • Identify the general direction of the object with reference to the bow of the vessel
Night Search	<ul style="list-style-type: none"> • The vessel will be prepared, equipment set up and the crew will be briefed for night operations prior to a night departure. • Roles will be monitored and the effectiveness of the search will be reviewed. • Demonstrate techniques such as spotlight staying out of driver's eyes, scanning the sector, and proper use of night vision goggles. • Crewmembers shall operate the NVG's according to manufacturer guidelines to spot and report an object in the water. 	X	X	<ul style="list-style-type: none"> • Crewmembers shall understand the difference between central and peripheral night vision. • Crewmembers shall be familiar with the operation of NVGs on board. • List the steps to setting up the vessel for night search operations. List the equipment and supplies that would be prepared and tested. • Brief the spotters on spotting techniques and reporting 	<ul style="list-style-type: none"> • Knowledge of the NVG and searchlights can be evaluated through competent performance of the skill. This competency may be evaluated during night operations in non-extreme weather conditions or during low priority incidents-missions. • Encourage and maintain the spotters' effectiveness by rotating them through the positions, keeping them

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	Crewmembers shall operate a search light so as to avoid compromising the crew's night vision.			methods.	nourished and hydrated. <ul style="list-style-type: none"> Review search techniques with the crew and encourage their diligence.
Search Communications	The crewmember will be able to signal a distress. The crewmember will recognize and respond to a distress signaling: <ul style="list-style-type: none"> Describe the steps for using signaling gear in the appropriate circumstances Acknowledge a radio call Gather and organize information Relay that information Relay identification, situation, and action taken future plan and status of case In the form of a SITREP 	X	X	<ul style="list-style-type: none"> Crewmembers shall explain the five parts of a SITREP and be able to relay that information. Crewmembers shall recognize all of the signals listed in the COLREGS. Crewmembers shall know the correct procedures for relaying a distress on VHF or other means of communication. 	<ul style="list-style-type: none"> Knowledge of the VHF distress communications can be evaluated through competent performance of the skill. Distress: This competency is recognized as prior learning with holders of the restricted radio operator's ticket.
Reporting a Target	The crewmember will use one these methods to perform the following steps: <ul style="list-style-type: none"> Giving full attention to the target the crewmember will report loudly what is seen and point to the object. The crewmember will indicate the direction of the sighted object in a manner which the other crew members 	X	X	The crewmember will be familiar with one of the following methods for reporting relative directions: <ul style="list-style-type: none"> Clock method Relative bearing Colour & degrees Point system 	Given an object that is clearly visible to the spotter in any conditions, given a relative point to represent the bow of a vessel, the crewmember will report the object.

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	understand and can orient to.				