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CANADIAN CADET ORGANIZATIONS

SMALL CRAFT OPERATOR PROGRAM (SCOP) MODULE 5 – WHALER

(ENGLISH)

(Cette publication est disponible en français sous le numéro A-CR-CCP-925/PG-002)

Issued on Authority of the Chief of Defence Staff

OPI: D Cdts & JCR

Canada



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2015-05-01

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FOREWORD AND PREFACE

1. **Issuing Authority.** This document was developed under the authority of the Director Cadets and Junior Canadian Rangers (D Cdts & JCR) in accordance with Cadet Administrative and Training Order (CATO) 14-19 *Small Craft Operator Program*, and is issued on the authority of the Chief of Defence Staff.
2. A-CR-050-880/PC-001, *Qualifying Standard (QS) for the Cadet Instructors Cadre Occupation MOSID 00232.01 Whaler / Cutter Instructor* is issued on the authority of the Chief of Reserves and Cadets.
3. This document supercedes A-CR-050-880/PC-001, *Qualification Standard (QS) for the Cadet Instructors Cadre Occupation MOSID 00232.01 Whaler / Cutter Instructor* and is effective upon receipt.
4. **Development.** Development of this document was in accordance with the performance oriented concept of training outlined in the Canadian Forces Individual Training and Education System A-P9-050 Series, *Manual of Individual Training and Education*, with modifications to meet the needs of the Canadian Cadet Organization (CCO).
5. The document contains the training requirements for SCOP Module 5 – Whaler and requirements and assessment package for those who wish to become a Whaler Instructor.
6. The Lesson Specifications (LSs) and Instructional Guides (IGs) in Chapter 4 are to be used by Technical Establishments (TEs) in conjunction with other resources to conduct SCOP Module 5 training.
7. **Suggested Changes.** Suggested changes to this document can be forwarded to cadettraining@forces.gc.ca.

TABLE OF CONTENTS

		PAGE
CHAPTER 1	GENERAL	1-1
	Aim	1-1
	Program Design	1-1
	Training Modules and Performance Objectives	1-1
	Method of Achieving Objectives	1-2
	Use of this Document	1-2
	Qualification Codes	1-2
CHAPTER 2	TRAINING MANAGEMENT DETAILS	2-1
	Responsible Agency and Training Establishments	2-1
	Training Delivery	2-1
	Training Prerequisites – Operator	2-2
	Training Prerequisites – Instructor	2-2
	Instructor Requirements and Training Capacity	2-2
	Training Administration	2-2
	Related Documents	2-2
	Resources	2-3
CHAPTER 3	STUDENT EVALUATION – OPERATOR AND INSTRUCTOR	3-1
	Purpose	3-1
	Learner Evaluation	3-1
	Assessment of Learning Plan	3-1
	Assessment Instruments	3-3
	Additional Assessment of Learning Activities	3-3
	Monitoring Student Progress	3-3
	Students Not Meeting the Standard	3-3
	Recording and Reporting Student Achievement	3-3
	Certificate of Completion	3-3
	Annex A – Assessment of Learning Plan – SCOP Module 5 – Whaler	3A-1
	Appendix 1 – 005 PC Whaler Assessment Instructions	3A1-1
	Appendix 2 – 005 PC Assessment Rubric – Whaler – Under Oars	3A2-1
	Appendix 3 – 005 PC Group Checklist – Whaler – Under Oars	3A3-1
	Appendix 4 – 005 PC Assessment Rubric – Whaler – Under Sail	3A4-1
	Appendix 5 – 005 PC Group Checklist – Whaler – Under Sail	3A5-1
	Appendix 6 – 005 PC Assessment Rubric – Whaler – Under Power	3A6-1
	Appendix 7 – 005 PC Group Checklist – Whaler – Under Power	3A7-1
	Appendix 8 – 005 PC Assessment Checklist – Whaler	3A8-1
	Instructor Trainee Evaluations	
	Annex B - 005 PC Whaler Assessment Instructions	3B-1
	Appendix 1 – 005.01 PPC Whaler Instructor – Lesson Rubric	3B1-1
	Appendix 2 – 005.01 PPC Whaler Instructor – Activity Rubric	3B2-1
	Appendix 3 – 005.01 PPC Whaler Instructor – Feedback and Summative Evaluation Form	3B3-1

CHAPTER 4	PERFORMANCE OBJECTIVES AND TRAINING PLAN	4-1
SECTION 1	PERFORMANCE OBJECTIVES AND TRAINING PLAN	4-1-1
	Purpose	4-1-1
	Performance Objectives	4-1-1
	Training Plan	4-1-1
	Enabling Objectives	4-1-1
	Lesson Specifications	4-1-1
	Instructional Methodologies and Their Application	4-1-2
	Assessment For Learning	4-1-2
SECTION 2	LESSON SPECIFICATIONS	
	PO 005 - Whaler	4-005-1
	EO 005.01 – Prepare to Operate a Whaler	4-005.01-1
	EO 005.02 – Prepare to Operate a Whaler Under Oars	4-005.02-1
	EO 005.03 – Prepare to Operate a Whaler Under Sail	4-005.03-1
	EO 005.04 – Prepare to Operate a Whaler Under Power	4-005.04-1
	EO 005.05 – Operate a Whaler	4-005.05-1
SECTION 3	INSTRUCTIONAL GUIDES	
	Introduction	4-005-1
	005.01 – Prepare to Operate a Whaler	4-005.01-1
	005.02 – Prepare to Operate a Whaler Under Oars	4-005.02-1
	005.03 – Prepare to Operate a Whaler Under Sail	4-005.03-1
	005.04 – Prepare to Operate a Whaler Under Power	4-005.04-1
	005.05 – Operate a Whaler	4-005.05-1
Annex A	Instructional Methodologies and their Applications	4A-1

CHAPTER 1

GENERAL

AIM

1. The Small Craft Operator Program (SCOP) is the Canadian Cadet Organization's (CCO) training program for qualifying persons to operate and instruct small craft in support of Sea, Army, and Air Cadets and Cadet Instructor Cadre (CIC) on-water training activities in accordance with (IAW) CATO 14-19, *Small Craft Operator Program*.
2. SCOP Module 5, Whaler is composed of two separate qualifications, Whaler and Whaler Instructor (WI). This document includes the standard and assessments for the two qualifications.
3. The WI is trained to instruct cadets and CIC officers to the Whaler standard and are required at cadet training centres (CTCs), training establishments (TEs) and in support of regionally and nationally directed activities. The WI will have a sound working knowledge of all orders and regulations pertaining to the planning and safe conduct of whaler instruction.
4. The training resulting from this module will develop in the student the knowledge and skills required to obtain the Sea Boat Coxswain qualification IAW CATO 14-19, *Small Craft Operator Program*.

PROGRAM DESIGN

5. SCOP training is designed in a modular format to allow personnel to complete only the training required to be qualified to operate a specific small craft in support of CCO on-water training activities. Each module of training has an associated performance objective (PO).
6. SCOP is used in both cadet and CIC training.

TRAINING MODULES AND POs

7. The aim of SCOP Module 5 – Whaler is to provide the student with the knowledge and skills with the knowledge and skills required to operate and command a whaler.
8. The aim of WI training is to provide personnel with the skills and knowledge required to plan and conduct whaler instruction.

9. It is expected but not required that prior to the assessment, the instructor trainee will work alongside and assist a WI to gain experience in the conduct of a SCOP Module 5 – Whaler course.

METHOD OF ACHIEVING OBJECTIVES

10. The majority of SCOP training is skills-related. Skills are acquired through practical periods of instruction and practice. In order to achieve the POs, a hands-on learning approach is essential. The following guidance may assist in the implementation of training:

- a. Some theory is required for safety purposes and for introducing new material. However, most material can be taught using hands-on practical methods.
- b. Ensure training is well organized and planned for in advance to allow instructors adequate time to prepare for the delivery / conduct of training. This includes reviewing lesson specifications and instructional guides and creating instructional materials as required.
- c. Schedule training such that the material is presented in a manner to ensure a smooth flow from one activity to the next.
- d. Take adequate time for students to reflect upon and be debriefed on training activities, to include discussing the ways that experience can benefit them in the future.

USE OF THIS DOCUMENT

11. This document shall be used as the primary authority governing the development, implementation, conduct, and evaluation of the training and standards for the SCOP Module 5 – Whaler. It shall also be used by D Cdt's & JCR as the primary reference for validation.

QUALIFICATION CODES

12. The following qualifications will be awarded:

Qualification / Mite Code	Qualifications
118647	Sea Boat Coxswain
118651	Whaler Instructor

CHAPTER 2

TRAINING MANAGEMENT DETAILS

RESPONSIBLE AGENCY AND TRAINING ESTABLISHMENTS

1. The Designated Training Authority (DTA) for the SCOP is D Cdts & JCR. The conduct of said program is the responsibility of the Regional Cadet Support Units (RCSUs) through authorized Training Establishments (TEs), IAW CATO 14-19, *Small Craft Operator Program*. These TEs include:

- a. Royal Canadian Sea Cadet Corps (RCSCC);
- b. Cadet Training Centres (CTC);
- c. Regional Cadet Instructor Schools (RCIS); and
- d. Technical TEs, such as:
 - (1) Nautical Sites; and
 - (2) Other zone, detachment or regional TEs as authorized by the RCSU Commanding Officer (CO).

TRAINING DELIVERY

2. SCOP Module 5 – Whaler may be conducted for cadets and CIC of all three environments whose duties require them to operate a small craft.

3. Students shall complete SCOP Module 1 – PCOC, Module 2 – ROC(M) and Module 3 – Powerboat before undertaking SCOP Module 5 – Whaler.

4. **Period Allocation.** Periods are 40 minutes in duration. Period allocation for SCOP Module 5 – Whaler is as follows:

EO No.	Performance Objective	No. Pd
PO 005 Module 5 – Whaler		
005.01	Prepare to Operate a Whaler	2
005.02	Prepare for Operate a Whaler Under Oars	2
005.03	Prepare for Operate a Whaler Under Sail	3
005.04	Prepare for Operate a Whaler Under Power	1
005.05	Operate a Whaler	32
Total		40

TRAINING PREREQUISITES – OPERATOR

5. Prerequisite for participation in this training module is Powerboat Operator (SCOP Modules 1, 2 and 3).

TRAINING PREREQUISITES – INSTRUCTOR

6. Prerequisites for CIC and Cadets participation in WI are as follows:

- a. held the whaler operator qualification for at least two years,
- b. 18 years of age, and
- c. for cadets, have completed Phase 4 and either Ship's Boat Operator (SBO) or Senior Sail.

INSTRUCTOR REQUIREMENTS AND TRAINING CAPACITY

7. SCOP Module 5 – Whaler shall be conducted by a SCOP Module 5 Instructor IAW this document and CATO 14-19, *Small Craft Operator Program*.

8. The instructor to student ratio shall not exceed 1:16 during instruction ashore and 1:8 during in- / on-water instruction, with appropriate adjustments made based on vessel capacity.

TRAINING ADMINISTRATION

9. Details on student evaluation and reports are found in Chapter 3.

10. SCOP certificates and cards shall be issued IAW CATO 14-19, *Small Craft Operator Program*.

RELATED DOCUMENTS

11. This QSP is to be used in conjunction with:

- a. Cadet Administration and Training Orders (CATOs);
- b. A-CR-CCP-030/PT-001, *Water Safety Orders*;
- c. A-CR-CCP-616/PG-001, *Royal Canadian Sea Cadets Ship's Boat Operator Qualification Standard and Plan*;
- d. A-CR-050-803/PH-001, Training Plan (TP), Cadet Instructors Cadre (CIC) – Sea Environmental Training Course.

- e. Director of Cadets and Junior Canadian Rangers. (2015). *Reference Guide for Rigging and Sailing the 27 Foot Service Whaler*. Ottawa, ON: Department of National Defence.

RESOURCES

- 12. RCSU COs are responsible for ensuring that required equipment and supplies are available. A detailed list of material, audiovisual equipment, and training / learning aids required to conduct the training is located in each lesson specification found in Chapter 4.

CHAPTER 3

STUDENT EVALUATION – OPERATOR AND INSTRUCTOR

PURPOSE

1. The purpose of this chapter is to outline the specific evaluation requirements for achievement of each performance objective.

LEARNER EVALUATION

2. “Learner evaluation is the assessment of progress made by participants during an instructional programme (formative evaluation) and of their achievement at the end of the programme (summative evaluation).” (A-P9-050-000/PT-Z01, Manual of Individual Training and Education, Volume 1 (1), Glossary).

3. Formative evaluation, or assessment **for** learning, takes place during a phase of instruction and helps students and instructors recognize progress or lapses in learning. Through formative evaluation, the instructor can; identify when corrective or remedial action is required, plan the next steps in instruction, provide students with feedback so they can improve, and reinforce learning to aid the student in retaining information. Formative evaluation may also include opportunities for students to practice using Performance Checks (PCs) employed in summative evaluation. Details for assessment of learning are outlined within the applicable lesson specifications located in Chapter 4.

4. Summative evaluation, or assessment **of** learning, takes place to determine whether learners have achieved POs, or critical EOs (those deemed prerequisites to further individual training and education) and are used at the end of a phase of instruction. Details for assessment of learning are detailed within this chapter.

ASSESSMENT OF LEARNING PLAN

5. The Assessment of Learning Plan – SCOP Module 5 – Whaler located at Chapter 3, Annex A, provides an overall strategy for using assessment activities to determine if the student meets the outlined requirements. The Assessment of Learning Plan will:

- a. provide an outline of each assessment of learning activity; including its purpose, when it will occur and details the assessment instrument(s) used to support the evaluation;
- b. identify the learning target(s) associated with the PO and / or EO being assessed, to include:
 - (1) **Knowledge Mastery.** The facts, concepts and theory a student needs to know;

- (2) **Reasoning Proficiency.** A student uses what they know to solve a problem, make a decision, make a plan, think critically, set goals, or self-assess;
 - (3) **Skills.** Performance demonstration; where the student demonstrates their ability to perform a skill. To be assessed, these performances must be demonstrated by the student and observed by an assessor;
 - (4) **Ability to Create Products.** A student uses their knowledge, reasoning and skills to create a concrete product; and / or
 - (5) **Attitudinal / Dispositional Changes.** A student's attitude about learning, safety, conduct, etc. Targets in this realm reflect attitude and feeling. They represent important affective goals we hold for a student as a by-product of their CP experience, and as such are not generally assessed for the purpose of attaining a qualification.
- c. identify the assessment method(s) that best matches PO and / or EO learning targets, to include:
- (1) **Selected Response.** A student selects the correct or best response from a list provided. Formats include multiple choice, true / false, matching, short answer, and fill-in-the-blank questions. Although short answer and fill-in-the-blank questions do require the student to generate an answer, they call for a very brief answer that is counted as right or wrong, so these have been included in the selected response category;
 - (2) **Extended Written Response.** A student is required to construct a written answer in response to a question or task rather than select one from a list. An extended written response is one that is at least several sentences in length;
 - (3) **Performance Assessment.** This assessment method is based on observation and judgment; we look at a performance or product is observed and a determination is made as to its quality; and / or
 - (4) **Personal Communication.** Gathering information about a student through personal communication; learning is assessed through interpersonal interaction with the student.

ASSESSMENT INSTRUMENTS

6. Specific assessment instruments have been designed to support the assessment activity within the assessment of learning plan. These are meant to standardize assessment activities and evaluation for all students.
 - a. Annex A consists of the assessment instructions and tools for SCOP Module 5 – Whaler – Operator.
 - b. Annex B consists of the assessment instructions and tools for SCOP Module 5 – Whaler – Instructor.

ADDITIONAL ASSESSMENT OF LEARNING ACTIVITIES

7. No additional student evaluations, eg, theory tests or performance checks, are to be used. Therefore, these national standards are not to be supplemented with additional standards.

MONITORING STUDENT PROGRESS

8. Instructors must closely monitor and keep students apprised of their progress using the provided assessment instruments. Assessment for learning should be provided through ongoing verbal feedback.

STUDENTS NOT MEETING THE STANDARD

9. A student who does not meet the standard for the PO shall be given a reasonable opportunity to achieve the standard. Unless otherwise specified in the Assessment of Learning Plan – SCOP Module 5 – Whaler and associated assessment instruments, there is no limit to the number of additional opportunities that may be afforded to the student, provided it is within the time and resource limitations of the TE.
10. If, by the end of the course, a student has yet to successfully complete the PO, they will be assessed as “Incomplete”.

RECORDING AND REPORTING STUDENT ACHIEVEMENT

11. Recording and reporting of student achievement shall be IAW Annex A to this chapter, CATO 14-19, *Small Craft Operators Program* and any reporting procedures put in place by the Regional SCOP OPI.

CERTIFICATE OF COMPLETION

12. SCOP certificate shall be issued IAW CATO 14-19, *Small Craft Operators Program*.

Annex A

Assessment of Learning Plan – SCOP Module 5 – Whaler

EC / PC	Scope	Purpose	Target	Method	How	When	Resources	Limitations
005 PC	PO 005	The purpose of this PC is to assess the student's ability to act as a coxswain of a whaler under sail, power and oars.	Knowledge and Skills	Performance Assessment	Student is observed while act as a coxswain (as well as manning other whaler positions) of a whaler under sail, power and oars. – Use instructor notes and PC Checklist to track completion of associated tasks and progression of skills.	Ongoing during the conduct of lessons related to PO 005	Annex A, Appendices 1–8	Limited Assistance
Whaler Instructor	PO 005.01	The purpose of this PC is to assess the instructor trainee's ability to instruct SCOP Module 5 – Whaler.			Evaluated while conducting one period of instruction and two activities.	Throughout Whaler Operator course.	Annex B, Appendices 1–3	Nil

ANNEX A, APPENDIX 1**005 PC - WHALER****ASSESSMENT INSTRUCTIONS**

GENERAL

Time has not been allotted for this PC as it is to be administered during EO 005.05, Operate a Whaler. It is to be conducted on open water IAW *Water Safety Orders*.

PRE-ASSESSMENT INSTRUCTIONS

1. Photocopy the 005 PC Assessment Rubric – Whaler Under Oars, located at Annex A, Appendix 2.
2. Photocopy the 005 PC Group Checklist – Whaler Under Oars, located at Annex A, Appendix 3, based on the number of students being assessed.
3. Photocopy the 005 PC Assessment Rubric – Whaler Under Sail, located at Annex A, Appendix 4.
4. Photocopy the 005 PC Group Checklist – Whaler Under Sail, located at Annex A, Appendix 5, based on the number of students being assessed.
5. Photocopy the 005 PC Assessment Rubric – Whaler Under Power, located at Annex A, Appendix 6.
6. Photocopy the 005 PC Group Checklist – Whaler Under Power, located at Annex A, Appendix 7, based on the number of students being assessed.
7. Photocopy the 005 PC Assessment Checklist - Whaler, located at Annex A, Appendix 8, for each student.

CONDUCT OF ASSESSMENT

1. Observe the student as they operate a whaler under pull, sail and power.
2. Assess the correctness of each element while acting as coxswain operating a whaler under pull, sail and power, using the appropriate assessment rubric.
3. Indicate the overall performance on the 005 PC Group Checklist – Whaler as:
 - a. **Incomplete.** The student has not achieved the performance standard by not completing one or more tasks;
 - b. **Completed.** The student has achieved the performance standard by completing all the tasks.

POST-ASSESSMENT INSTRUCTIONS

1. Record the results on the 005 PC Assessment Checklist - Whaler and any notes for each student.
2. Discuss the overall performance results with the student and provide them with a copy of the completed checklist.
3. Sign and date the 005 PC Assessment Checklist - Whaler.

**ANNEX A – APPENDIX 2
005 PC ASSESSMENT RUBRIC
WHALER – UNDER OARS**

	Incomplete	Complete
Act as a Coxswain While Pulling	<p>The student did not:</p> <ul style="list-style-type: none"> - use the whaler pulling commands to effect desired crew action. - display a combination of tiller control and whaler pulling commands for the conditions present. - display situational awareness. 	<p>The student:</p> <ul style="list-style-type: none"> - used the correct words of command to effect desired crew action. - displayed a combination of tiller control and whaler pulling commands for the conditions present. - displayed situational awareness.
Act as a Coxswain While Stopping	<p>The student did not:</p> <ul style="list-style-type: none"> - use the whaler pulling commands for stopping to effect desired crew action. - determine the correct stopping distance and was required to taken collision avoidance actions. - display a combination of tiller control and whaler pulling commands for the conditions present. - display situational awareness. 	<p>The student:</p> <ul style="list-style-type: none"> - used the words of command for stopping to effect desired crew action. - stopped at the desired mark without any additional action required. - displayed a combination of tiller control and whaler pulling commands for the conditions present. - displayed situational awareness.
Act as a Coxswain While Manoeuvring	<p>The student did not:</p> <ul style="list-style-type: none"> - use the whaler pulling commands to effect desired crew action. - manoeuver in reverse in a straight course for 16 m. - did not display a combination of tiller control and whaler pulling commands for the conditions present. - did not display situational awareness. 	<p>The student:</p> <ul style="list-style-type: none"> - used the whaler pulling commands to effect desired crew action; - manoeuvered in reverse in a straight course for 16 m. - displayed a combination of tiller control and whaler pulling commands for the conditions present. - displayed situational awareness.
Act as a Coxswain When Coming Alongside	<p>The student did not:</p> <ul style="list-style-type: none"> - display a combination of tiller control and whaler pulling commands while coming alongside. - did not display situational awareness. 	<p>The student:</p> <ul style="list-style-type: none"> - displayed a combination of tiller control and whaler pulling commands while coming alongside. - displayed situational awareness.

**ANNEX A – APPENDIX 3
005 PC GROUP CHECKLIST
WHALER – UNDER OARS**

OPERATE A WHALER UNDER OARS			Names														
			1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.
CREW POSITIONS	Bow	Slipping															
		Coming Alongside															
	Second Bow																
	Midships																
	Second Stroke																
	Stroke	Slipping															
		Coming Alongside															
	Coxswain	Pulling															
		Stopping															
		Manoeuvring															
		Coming Alongside															

I = Incomplete C = Complete

**ANNEX A – APPENDIX 4
005 PC ASSESSMENT RUBRIC
WHALER – UNDER SAIL**

	Incomplete	Complete
Act as a Coxswain While Sailing	<p>The student did not:</p> <ul style="list-style-type: none"> - use the whaler sailing commands to effect desired crew action. - display a combination of tiller control and whaler sailing commands for the conditions present. - display situational awareness. 	<p>The student:</p> <ul style="list-style-type: none"> - acted as coxswain while sailing, using the words of command to effect desired crew action. - displayed a combination of tiller control and whaler sailing commands for the conditions present. - displayed situational awareness.
Act as a Coxswain While Stopping	<p>The student did not:</p> <ul style="list-style-type: none"> - use the whaler sailing commands to stop under sail and effect the desired crew action. - determine the correct stopping distance and was required to taken collision avoidance actions. - display a combination of tiller control and whaler sailing commands for the conditions present. - display situational awareness. 	<p>The student:</p> <ul style="list-style-type: none"> - used the words of command to effect desired crew action. - stopped at the desired mark without any additional action required. - displayed a combination of tiller control and whaler sailing commands for the conditions present. - displayed situational awareness.
Act as a Coxswain While Manoeuvring	<p>The student did not:</p> <ul style="list-style-type: none"> - use the whaler sailing commands while manoeuvring to effect desired crew action. - manoeuvre to a directed point of sail and maintain a straight course for 200 m. - identify wind direction and make necessary sail and tiller adjustments for changes in wind speed and direction. - apply keel adjustment based on the selected points of sail. - display a combination of tiller control and whaler sailing commands for the conditions present. - display situational awareness. 	<p>The student:</p> <ul style="list-style-type: none"> - used the whaler sailing commands while manoeuvring to effect desired crew action. - manoeuvred on the directed point of sail and maintained a straight course for 200 m. - identified wind direction and made necessary adjustments for wind speed and direction. - applied proper keel adjustment. - displayed a combination of tiller control and whaler sailing commands for the conditions present. - displayed situational awareness.
Act as a Coxswain When Coming Alongside	<p>The student did not:</p> <ul style="list-style-type: none"> - display a combination of tiller control and whaler sailing commands for coming alongside. - display situational awareness. 	<p>The student:</p> <ul style="list-style-type: none"> - displayed a combination of tiller control and whaler sailing commands for coming alongside. - displayed situational awareness.

**ANNEX A – APPENDIX 5
005 PC GROUP CHECKLIST
WHALER – UNDER SAIL**

OPERATE A WHALER UNDER SAIL		Names	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	
		CREW POSITIONS	Port Foresheets															
Starboard Foresheets																		
Lug/Brail																		
Port Mainsheet																		
Starboard Mainsheet																		
Coxswain	Sailing																	
	Stopping																	
	Manoeuvring																	
	Coming Alongside																	

I = Incomplete C = Completed

**ANNEX A – APPENDIX 6
005 PC ASSESSMENT RUBRIC
WHALER – UNDER POWER**

	INCOMPLETE	COMPLETE
Act as a Coxswain While Slipping	<p>The student:</p> <ul style="list-style-type: none"> - made extensive contact with the dock, while slipping. - did not demonstrate a clear departure plan. - did not provide clear instructions to crew. - used the crew to fend or push away from the dock extensively. - did not display a combination of tiller and throttle control and commands for the conditions present. - did not display situational awareness. 	<p>The student:</p> <ul style="list-style-type: none"> - left the dock without contact. - selected the safest departure plan. - provided clear instructions to the crew and the crew was not required to fend off or push the whaler away from the dock. - displayed a combination of tiller and throttle control and commands for the conditions present. - displayed situational awareness.
Act as a Coxswain When Coming Alongside	<p>The student did not:</p> <ul style="list-style-type: none"> - approach at the correct angle (45 degrees plus or minus 10 degrees). - use controllable speed. - demonstrate a clear approach plan. - provide clear instructions to the crew; the crew had to fend off extensively or had to use lines or equipment to draw the whaler into the dock. - made extensive contact with the dock. - did not display a combination of tiller and throttle control and commands for the conditions present. - did not display situational awareness. 	<p>The student:</p> <ul style="list-style-type: none"> - returned to the dock with minimal use and compression of the fenders. - selected the safest approach plan. - provided clear instructions to the crew and they did not fend off the dock or use lines or equipment to draw the boat into the dock. - displayed a combination of tiller and throttle control and commands for the conditions present. - displayed situational awareness.

<p>Act as a Coxswain While Turning</p>	<p>The student did not:</p> <ul style="list-style-type: none"> - apply proper maneuvering techniques creating an unsafe situation for the crew. - determine turning radius for the conditions present. - adjust the speed for the required turn for the conditions present and had to take collision avoidance actions. - display a combination of tiller and throttle control and commands for the conditions present. - display situational awareness. 	<p>The student:</p> <ul style="list-style-type: none"> - applied proper maneuvering techniques while turning. - was able to determine turning radius for the conditions present. - adjusted the speed for the required turn for the conditions present. - displayed a combination of tiller and throttle control and commands for the conditions present. - displayed situational awareness.
<p>Act as a Coxswain While Stopping</p>	<p>The student did not:</p> <ul style="list-style-type: none"> - determine the stopping distance correctly and was required to taken collision avoidance actions. - display a combination of tiller and throttle control and commands for the conditions present. - display situational awareness. 	<p>The student:</p> <ul style="list-style-type: none"> - stopped at the desired mark without any additional action required. - displayed a combination of tiller and throttle control and commands for the conditions present. - displayed situational awareness.
<p>Act as a Coxswain While Using Emergency Avoidance</p>	<p>The student:</p> <ul style="list-style-type: none"> - did not recognize the hazard in sufficient time to take action. - used emergency avoidance techniques but created an unsafe situation for the crew or other vessels. - made extensive contact with the hazard. - did not display a combination of tiller and throttle control and commands for the conditions present. - did not display situational awareness. 	<p>The student:</p> <ul style="list-style-type: none"> - recognized the hazard in sufficient time to take action. - used emergency avoidance techniques and created the safest situation for the crew or other vessels. - did not make contact with the hazard. - displayed a combination of tiller and throttle control and commands for the conditions present. - displayed situational awareness.

**ANNEX A – APPENDIX 7
005 PC GROUP CHECKLIST
WHALER – UNDER POWER**

OPERATE A WHALER UNDER POWER		Names													
		1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.
COXSWAIN	Slipping														
	Coming Alongside														
	Turning														
	Stopping														
	Emergency Avoidance														

I = Incomplete C = Complete

**ANNEX A, APPENDIX 8
005 PC ASSESSMENT CHECKLIST
WHALER**

Student's Name: _____

Division / Corps: _____

Operating A Whaler Under Oars	Incomplete	Complete
Act as a Coxswain While Pulling.		
Act as a Coxswain While Stopping.		
Act as a Coxswain While Manoeuvring.		
Act as a Coxswain When Coming Alongside.		
Operating A Whaler Under Sail	Incomplete	Complete
Act as a Coxswain While Sailing.		
Act as a Coxswain While Stopping.		
Act as a Coxswain While Manoeuvring.		
Act as a Coxswain When Coming Alongside.		
Operating A Whaler Under Power	Incomplete	Complete
Act as a Coxswain While Slipping.		
Act as a Coxswain When Coming Alongside.		
Act as a Coxswain While Turning.		
Act as a Coxswain While Stopping.		
Act as a Coxswain While Using Emergency Avoidance Techniques.		

Assessor's Feedback:**Overall Performance Assessment:**

PO 005 Assessment				
Check One	Incomplete		Complete	
Overall Performance	The student has not completed one or more of the required tasks.		The student has achieved the performance standard by completing all of the required tasks.	

Assessor's Name:	Position:
Assessor's Signature:	Date:

ANNEX B

005 PC WHALER INSTRUCTOR

ASSESSMENT INSTRUCTIONS

Pre-Assessment Instructions:

1. Review the Assessment of Learning Plan – SCOP Module 5 – Whaler, located at Annex A.
2. Photocopy the 005.01 PPC Whaler Instructor – Lesson Rubric, located at Annex B, Appendix 1, one copy for each instructor trainee.
3. Photocopy the 005.01 PPC Whaler Instructor – Activity Rubric, located at Annex B, Appendix 2, two copies for each instructor trainee.
4. Photocopy the 005.01 PPC – Whaler Instructor – Feedback and Summative Evaluation Form, located at Annex B, Appendix 3, one copy for each instructor trainee.

Requirements:

- Whaler equipped with motor, sails and oars,
- 005 PC – Whaler, Assessment Instructions, located at Annex A, Appendix 1,
- 005 PC Assessment Rubric – Whaler, located at Annex A, Appendices 2, 4, and 6,
- 005 PC Group Checklist – Whaler, located at Annex A, Appendices 3, 5, and 7.

Purpose of test: The purpose of this PPC is to assess the instructor trainee's ability to instruct safe whaler operation, IAW *Water Safety Orders*.

Type of test: This PPC is divided into two parts and requires the instructor trainee to instruct whaler operation under oars, sail and power. The instructor trainee shall conduct one period of instruction and two onwater activities. One activity shall be while the whaler is under sail.

Description of how test will be conducted:

Part A

The instructor trainee will select and conduct one period of instruction on the shore or in a classroom. The instructional period will be selected from the following Enabling Objectives (EOs):

- EO 005.01 Prepare to Operate a Whaler,

- EO 005.02 Prepare to Operate a Whaler Under Oars,
- EO 005.03 Prepare to Operate a Whaler Under Sail, and
- EO 005.04 Prepare to Operate a Whaler Under Power.

The evaluator will approve the instructional period choices based on a need to avoid duplicate lessons.

The evaluator will monitor the instruction and record the instructor trainee's performance on the 005.01 PPC Whaler Instructor – Lesson Rubric.

Part B

The instructor trainee shall conduct two activities from EO 005.05, Operate a Whaler. One of the activities must be while the whaler is under sail.

The instructor trainee will follow the pre-lesson instructions and adhere to the instructional method(s) identified in the instructor guide for each lesson.

An evaluator will monitor the instruction and record the instructor trainee's performance on the 005.01 PPC Whaler Instructor – Activity Rubric.

Time allowed for the test:

Part A

Each instructor trainee will be required to conduct one 40 minute period of instruction, within the following time frame:

- 5 min – preparation / set-up
- 40 min – lesson delivery
- 5 min – debrief of student

Part B

Each instructor trainee will be required to conduct two activities. The exact timings will be determined by the activity chosen but should fall within the following time frame:

- 5 min – preparation / setup
- 20–40 min – activity
- 5 min – debrief of student

The instructor trainee will be allocated a minimum of 10 minutes to modify their subsequent lesson plan based on the feedback received from the evaluator on their previous period of instruction.

Resources available or denied:

Available: The instructor trainee will be provided the following for training and evaluation:

- access to instructional guides and other lesson planning resources,
- blank lessons plans,
- access to training aids, and
- copies of the 005.01 PPC Whaler Instructor – Lesson Rubric and 005.01 PPC Whaler Instructor – Activity Rubric (prior to evaluation only).

Denied: Nil.

Standard of achievement required to pass:

A pass standard is achieved if all elements on the evaluation form are checked “Yes” within the time allocated.

Re-Test: If an instructor trainee is unsuccessful on the first attempt, they are permitted a second attempt.

The instructor trainee shall be retested using a lesson or activity selected by the evaluator, based on the training needs of the students.

Actions to be taken upon completion of test:

Record the lesson and activity scores on the 005.01 PPC Whaler Instructor – Feedback and Summative Evaluation Form.

Upon completion of the PPC, the instructor trainee shall be debriefed on their performance by the evaluator and provided feedback on their strengths and areas for improvement. The instructor trainee shall be advised if they have passed or failed. In the event of a failure, the instructor trainee should be fully advised in which areas they were unsuccessful and provided assistance in how to rectify these. However, in all cases, the circumstances of the instructor trainee’s inability to meet the standard shall be explained / recorded in the comments portion of the instructor trainee’s evaluation form.

The evaluation forms are to be forwarded to the Regional SCOP OPI to be placed on the instructor trainee’s file. Instructor trainees are to have access to these forms, if requested.

**ANNEX B, APPENDIX 1
005.01 PPC WHALER INSTRUCTOR – LESSON RUBRIC**

INSTRUCTOR	TRAINEE UNIT	INSTRUCTOR	TRAINEE NAME	SN (CIC ONLY)
LESSON: _____				

		CRITERIA				SCORE
		3	2	1	0	
PREPARATION						
Set-up of Training Environment	Set-up includes all of the following: functional seating formation, training area is clean, well-lit, training aids are prepared and ready for use.	The instructor missed one item in training environment set-up.	The instructor missed two items in training environment set-up.	The instructor missed more than two items, <u>or</u> no set-up of training environment is evident.		/3
Lesson Plan Content	The lesson plan contains sufficient detail to cover the teaching points (TPs) IAW the applicable QSP and includes the relevant details of how TPs are to be presented.	The lesson plan contains adequate detail to cover the teaching points (TPs) IAW the applicable QSP and includes some relevant detail of how TPs are to be presented.	The lesson plans contains insufficient material to cover the teaching points (TPs) IAW the applicable QSP and includes few details of how TPs are to be presented.	The instructor has no detail to support the delivery of an effective period of instruction <u>or</u> the lesson plan was not developed IAW the QSP.		/3
INTRODUCTION						
Introduction	The instructor stated what is being taught (teaching points), why it is important, where the lesson fits in.	The instructor missed one main item in their introduction.	The instructor missed two main items in their introduction.	The instructor missed more than two main items in their introduction.		/3
BODY OF THE LESSON						
Training Aids	A variety of visual training aids were used that were relevant, realistic, and assisted trainees in understanding the course material.	Training aids were relevant and assisted trainees in understanding course material.	Training aids were used but were limited in enhancing trainee understanding of the course material.	No training aids were used <u>or</u> if used hindered trainee learning.		/3
Method		The instructor selected one or more of the methods specifically listed for that lesson in the Instructor Guide (IG).	Method selected detracted from learning.	The instructor selected a method not conducive to learning.		/2
Comprehension	The instructor asked questions to confirm previous knowledge and during lesson to confirm understanding, adjusted instruction to trainee's reaction, and utilized handouts and assignments as learning activities (as applicable).	The instructor asked questions during lesson to confirm understanding, made some effort to adjust instruction to trainee's reaction, and utilized handouts and assignments as learning activities (as applicable).	The instructor asked a limited number of questions during the lesson and made little effort to adjust instruction to trainee's reaction.	The instructor asked no questions during the lesson, and did not make any effort to adjust or respond to trainee's reaction.		/3

	CRITERIA				SCORE
	3	2	1	0	
Participation	Students participated in the learning process through the use of thought-provoking questions, and the encouragement of expression and class solutions.	Students participated in the learning process through the use of thought-provoking questions.	Students participated in the learning process through the use of some questions.	Students did not participate in the class through the use of questions.	/3
Accomplishment		The instructor motivated and provided feedback to trainees consistently throughout the lesson.	The instructor motivated and provided feedback to trainees during some parts of the lesson.	The instructor did not motivate or provide feedback to trainees.	/2
Confirmation		The instructor consistently confirmed understanding of lesson material by conducting periodic progress checks using questions, and / or practice, exercises, assignments, group activities (as applicable) during the lesson.	The instructor confirmed understanding of lesson material by conducting periodic progress checks using questions, and / or practice, exercises, assignments, group activities (as applicable) for some parts during the lesson.	The instructor did not confirm understanding of lesson material.	/2
Lesson Development	The instructor introduced each stage, presented all the teaching points applicable to the stage, and confirmed understanding at the end of each stage.	The instructor missed either the intro or confirmation for one of the stages <u>or</u> did not cover all teaching points adequately within one stage.	The instructor missed all of the introductions <u>or</u> all of the confirmations for each stage.	The instructor missed all introductions and confirmations <u>or</u> missed the majority of teaching points of the lesson.	/3
CONCLUSION					
End of Lesson Check	The instructor confirmed the lesson by conducting an end of lesson confirmation / test, which covered all of the main teaching points in the lesson.	The instructor confirmed the lesson by conducting an end of lesson confirmation / test, which covered the majority of the main teaching points in the lesson.	The instructor confirmed the lesson by conducting an end of lesson confirmation / test, which covered only some of the main teaching points in the lesson.	The instructor did not conduct an end of lesson confirmation / test.	/3
COMMENTS:				TOTAL	/30
				SCORE REQUIRED: 18 / 30 (60%)	

 INSTRUCTOR TRAINEE'S SIGNATURE
 (I have read and discussed this evaluation)

 DATE

 EVALUATOR'S SIGNATURE

 DATE

ANNEX B, APPENDIX 2

005.01 PPC WHALER INSTRUCTOR – ACTIVITY RUBRIC

INSTRUCTOR TRAINEE'S UNIT	INSTRUCTOR TRAINEE'S NAME	INIT.	SN (CIC only)
EVALUATION LOCATION	EVALUATOR LAST NAME	INIT.	

ACTIVITY: _____

CRITERIA						SCORE
	3	2	1	0		
PREPARATION						
Set-up of Training Environment	Set-up includes all of the following: selected training area is of sufficient size and safely positioned in a low traffic area, resources (i.e. safety boats, sailboats, buoys, PFDs) are prepared and ready for use, and the introduction briefing is prepared and ready to present.	The instructor missed one item in training environment set-up.	The instructor missed two items in training environment set-up.	The instructor missed more than two items, <u>or</u> no set-up of training environment is evident.		/3
INTRODUCTION						
Introduction	The instructor correctly stated why the activity is important (objective), what is being practiced (key points), how the activity will be conducted (drill(s)) all IAW how the activity is described in the SCOP IG.	The instructor missed or incorrectly described one main item in their introduction.	The instructor missed or incorrectly stated two main items in their introduction.	The instructor missed or incorrectly stated more than two main items in their introduction.		/3
CONTENT						
Activity Demonstration	The instructor correctly demonstrated all of the steps to follow all IAW the content of the activity as described in the SCOP IG.	The instructor missed or incorrectly demonstrated one step.	The instructor missed or incorrectly demonstrated two steps.	The Instructor did not state the steps to follow or incorrectly demonstrated more than two steps.		/3

CRITERIA					SCORE
3	2	1	0		
Activity Development	The instructor introduced each stage, reviewed all the teaching points applicable to the stage, and confirmed understanding at the end of each stage.	The instructor missed either the intro or confirmation for one of the stages <u>or</u> did not review all teaching points adequately within one stage.	The instructor missed all of the introductions <u>or</u> all of the confirmations for each stage.	The instructor missed all introductions and confirmations <u>or</u> missed the majority of teaching points of the activity.	/3
Safety	The instructor immediately stopped any unsafe actions, was attentive and maintained control, and continuously promoted safe practices through discussion and / or demonstration.	The instructor immediately stopped any unsafe actions and occasionally promoted safe practices through discussion and / or demonstration.	The instructor delayed in stopping unsafe actions <u>or</u> was frequently inattentive during the activity.	The instructor did not stop any unsafe actions <u>or</u> was not in control of the activity <u>or</u> displayed unsafe practices during the activity.	/3
Participation		Each trainee practiced the skill multiple times <u>or</u> until they were assessed as competent.	Each trainee was given only one opportunity to practice the skill	One or more trainees were not given an opportunity to practice the skill.	/2
Accomplishment		The instructor motivated and provided feedback to trainees consistently throughout the activity.	The instructor motivated and provided feedback to trainees during some parts of the activity.	The instructor did not motivate or provide feedback to trainees.	/2
CONCLUSION					
Conclusion	The instructor provided detailed feedback to each trainee regarding their performance during the activity IAW the activity objectives as described in the SCOP IG.	The instructor provided some detailed feedback to trainees IAW the activity objectives as described in the SCOP IG.	The instructor provided generalized feedback to the trainees IAW the activity objectives as described in the SCOP IG.	The instructor did not provide any feedback <u>or</u> the feedback was not IAW the activity objectives as described in the SCOP IG.	/3
COMMENTS:				TOTAL	/22
				PASS SCORE REQUIRED: 13/22 (60%)	

 INSTRUCTOR TRAINEE'S SIGNATURE
 (I have read and discussed this evaluation)

 DATE

 EVALUATOR'S SIGNATURE

 DATE

ANNEX B APPENDIX 3

005.01 PPC WHALER INSTRUCTOR

FEEDBACK AND SUMMATIVE EVALUATION FORM

INSTRUCTOR TRAINEE UNIT	INSTRUCTOR TRAINEE NAME	INIT.	SN (CIC only)
EVALUATION LOCATION	EVALUATOR LAST NAME	INIT.	

	The instructor trainee successfully conducted	YES	NO	REMARKS
1	Lesson 1: _____ (title)			Score: /30 PASS SCORE: 18 / 30 (60%)
2	Activity 1: _____ (title)			Score: /22 PASS SCORE: 13 / 22 (60%)
3	Activity 2: _____ (title)			Score: /22 PASS SCORE: 13 / 22 (60%)

All elements must be checked "Yes" in order for the student to be successful.

COMMENTS:

INSTRUCTOR TRAINEE'S SIGNATURE
(I have read and discussed this evaluation)

DATE

EVALUATOR'S SIGNATURE

DATE

CHAPTER 4

PERFORMANCE OBJECTIVES (POs) AND TRAINING PLAN

PURPOSE

1. The purpose of this chapter is to outline the specific POs, and Training Plan associated with the Module 5 – Whaler qualification.

PERFORMANCE OBJECTIVES

2. POs are a description of the student's ability after training is complete. They include a description, in performance terms, of what the individual must do, the conditions under which the performance must be completed, and the standard to which the performance must conform. These three elements are respectively defined as:

- a. a performance statement,
- b. a conditions statement, and
- c. a standard.

TRAINING PLAN

3. This chapter also details the training plan that is designed to assist students to achieve the required POs using Enabling Objectives (EOs) and Lesson Specifications (LS) that are the key reference used for development of this document.

ENABLING OBJECTIVES

4. EOs are a description of the cadet's ability after each unit of learning is complete and constitute a major step towards achieving the PO. EOs may correspond to the major components identified in the first round of deconstructing POs or they may result from grouping several related components. They are composed of three essential parts:

- a. a performance statement,
- b. a conditions statement, and
- c. a standard.

LESSON SPECIFICATIONS

5. LSs describe the instructional strategy to be applied to each EO, and include:

- a. supporting teaching points,
- b. references,
- c. learning activities (methods, media and environment),
- d. estimated timings,
- e. assessment directions, and
- f. any remarks that further clarify the design intent.

INSTRUCTIONAL METHODOLOGIES AND THEIR APPLICATION

6. General information including age-appropriateness, definition, application, advantages and disadvantages for the various methods of instruction commonly accepted as appropriate for cadet training are located at Annex A.

ASSESSMENT FOR LEARNING

7. Formative evaluation, or assessment for learning, takes place during a phase of instruction and helps cadets and instructors recognize progress or lapses in learning. These assessments can also provide cadets with opportunities to practice PCs. This helps to diagnose cadet needs, eg, corrective action or remedial instruction, plan the next steps in instruction and provide cadets with feedback they can use to improve. It also reinforces learning so that it can be retained longer. Details for Module 5 – Whaler assessment for learning are outlined within the applicable lesson specifications.

PO 005

1. **Performance:** Operate a Whaler
2. **Conditions:**
 - a. Given:
 - (1) Fully equipped whaler,
 - (2) Personal floatation device (PFD),
 - (3) Supervision, and
 - (4) Assistance as required.
 - b. Denied: Nil.
 - c. Environmental:
 - (1) Training area large enough to accommodate the entire group, and
 - (2) During daylight hours, in suitable weather conditions, IAW A-CR-CCP-030/PT-001, *Water Safety Orders*.
3. **Standard:** The student will operate a whaler under:
 - a. oars,
 - b. sail, and
 - c. power.
4. **Remarks:** Prior to participating in this PO, the student shall have attained the following qualifications:
 - a. Small Craft Operator Program (SCOP) Module 1 – PCOC,
 - b. SCOP Module 2 – ROC(M), and
 - c. SCOP Module 3 – Powerboat.

EO 005.01

1. **Performance:** Prepare to Operate a Whaler
2. **Conditions:**
 - a. Given:
 - (1) Supervision, and
 - (2) Assistance as required.
 - b. Denied: Nil.
 - c. Environmental: Training area large enough to accommodate the entire group.
3. **Standard:** The student shall prepare to operate a whaler by:
 - a. selecting personal clothing and equipment;
 - b. identifying mandatory safety equipment;
 - c. stowing a whaler; and
 - d. explaining responses to equipment failures, to include:
 - (1) loss of rudder,
 - (2) loss of drop keel, and
 - (3) hull breach.
4. **Teaching Points:**

TP	Description	Method	Time	Refs
TP1	Explain the requirements for: <ol style="list-style-type: none"> a. personal clothing and equipment, to include: <ol style="list-style-type: none"> (1) PFD, (2) footwear, and (3) headgear; and b. personal safety, to include: <ol style="list-style-type: none"> (1) embarking and disembarking a whaler; and (2) transitioning from sail to pull. 	Interactive Lecture	10 min	7a, 7b, 7e
TP2	Conduct an activity where the students will identify the safety equipment to be carried onboard a whaler.	In-Class Activity	30 min	7a, 7d (p. 37, p. 38), 7e
TP3	Explain stowing a whaler, to include: <ol style="list-style-type: none"> a. balancing; b. accessing safety equipment; 	Interactive Lecture	10 min	7c (p. 3-15)

TP	Description	Method	Time	Refs
	c. accessing operational equipment; and d. loading and unloading.			
TP4	Explain how to transition from one propulsion method to another, to include: a. sail to pull, b. pull to sail, c. sail to power, d. power to sail, e. pull to power, and f. power to pull.	Interactive Lecture	15 min	7c
TP5	Explain the response to equipment failure, to include: a. loss of rudder, b. loss of drop keel, and c. hull breach.	Interactive Lecture	10 min	

5. **Time:**

- | | | |
|----|----------------------------|--------|
| a. | Introduction / Conclusion: | 5 min |
| b. | Interactive Lecture: | 45 min |
| c. | In-Class Activity: | 30 min |
| d. | Total: | 80 min |

6. **Substantiation:**

- a. An interactive lecture was chosen for TPs 1 and 3–5 to illustrate the principles and concepts for operating a whaler.
- b. An in-class activity was chosen for TP 2 as it is an interactive way to provoke thought and stimulate an interest in safety equipment required for operating a whaler.

7. **References:**

- a. A-CR-CCP-030/PT-001 Director Cadets and Junior Canadian Rangers 4. (2005). *Water safety orders*. Ottawa, ON: Department of National Defence.
- b. Canadian Red Cross. (1999–2006). *PFD checklist*. Retrieved October 16, 2007, from <http://www.redcross.ca/article.asp?id=001039&tid=024>.
- c. ISBN 0 II 771958 7 Royal Navy. (1967). *Admiralty manual of seamanship 1964* (Vol. 2). Cambridge, England: Her Majesty's Stationery Office.
- d. Office of Boating Safety. (2006). *Safe boating guide*. Ottawa, ON: Her Majesty the Queen in Right of Canada, as represented by Transport Canada.

- e. A-CR-CCP-921/PG-001 Director Cadets and Junior Canadian Rangers 4. (2015). *Small Craft Operator Program, Module 1 - PCOC*. Ottawa, ON: Department of National Defence.

8. **Training Aids:**

- a. Fully equipped whaler.
- b. Mandatory equipment, as per *Small Vessel Regulations*.

9. **Learning Aids:** Nil.

10. **Test Details:** Nil.

11. **Remarks:** The lesson may be completed in a mock-up or alongside.

EO 005.02

1. **Performance:** Prepare to Operate a Whaler Under Oars
2. **Conditions:**
 - a. Given:
 - (1) Fully equipped whaler,
 - (2) Supervision, and
 - (3) Assistance as required.
 - b. Denied: Nil.
 - c. Environmental: During daylight hours, in suitable weather conditions, IAW A-CR-CCP-030/PT-001, *Water Safety Orders*.
3. **Standard:** The student shall prepare to operate a whaler under oars, to include:
 - a. identifying whaler parts;
 - b. describing the parts of a whaler oar / sweep; and
 - c. describing whaler pulling positions.
4. **Teaching Points:**

TP	Description	Method	Time	Refs
TP1	Identify the following parts of a whaler: <ol style="list-style-type: none"> a. backboard, b. bow, c. crutch, d. crutch plate, e. drop keel, f. gunwale, g. keel, h. keel box, i. knee, j. stern, k. stern benches, l. stern sheets, m. stretcher, n. thwart, o. tiller, p. towing bollard, q. towing strongback, r. towing thwart, s. yoke, and t. yoke lines. 	Interactive Lecture	15 min	7a (pp. 242–249)
TP2	Conduct an activity where the students will identify parts of the whaler.	Practical Activity	20 min	

TP	Description	Method	Time	Refs
TP3	Describe the following parts of an oar / sweep: a. blade, b. loom, and c. grip.	Interactive Lecture	10 min	7a (p. 236)
TP4	Describe the following pulling positions and their responsibilities: a. bowman, b. second bow, c. midships, d. second stroke, e. stroke, and f. coxswain.	Interactive Lecture	25 min	7a (p. 282)

5. Time:

- | | | |
|----|----------------------------|--------|
| a. | Introduction / Conclusion: | 10 min |
| b. | Practical Activity: | 20 min |
| c. | Interactive Lecture: | 50 min |
| d. | Total: | 80 min |

6. Substantiation:

- An interactive lecture was chosen for TPs 1, and 3–4 to orient the students to the knowledge and skills required for operating a whaler under oars.
- A practical activity was chosen for TP 2 as it allows the students to identify parts of the whaler under supervision. This activity contributes to the development of necessary skills and knowledge required to coxswain a whaler under oars, power or sail in a fun and challenging setting.

7. References:

- ISBN 11-770973-5 Royal Navy. (1972). Admiralty manual of seamanship (Vol. 1). London, England: Her Majesty's Stationery Office.
- Director of Cadets and Junior Canadian Rangers 6. (2014). *SCOP Reference Cards*, Ottawa, ON: Department of National Defence.

8. Training Aids:

- Presentation aids (eg, whiteboard / flip chart / OHP / multimedia projector) appropriate for the classroom / training area, and
- Fully equipped whaler.

9. **Learning Aids:**
 - a. Fully equipped whaler, and
 - b. Whaler pulling orders handout.
10. **Test Details:** This EO is assessed IAW Chapter 3, Annex A.
11. **Remarks:** This lesson may be conducted in a whaler mock-up.

EO 005.03

1. **Performance:** Prepare to Operate a Whaler Under Sail
2. **Conditions:**
 - a. Given:
 - (1) Fully equipped whaler,
 - (2) Personal floatation device (PFD),
 - (3) Supervision, and
 - (4) Assistance as required.
 - b. Denied: Nil.
 - c. Environmental: During daylight hours, in suitable weather conditions, IAW A-CR-CCP-030/PT-001, *Water Safety Orders*.
3. **Standard:** The student shall prepare to operate a whaler under sail, to include:
 - a. identifying whaler sails;
 - b. describing the functions of the parts used for sailing a whaler;
 - c. responding to whaler sail orders; and
 - d. rigging and de-rigging a whaler.
4. **Teaching Points:**

TP	Description	Method	Time	Refs
TP1	Describe the following types of sails: a. foresail, b. mainsail, and c. mizzen sail.	Interactive Lecture	5 min	7 (p. 251)
TP2	Identify the following parts and describe their functions: a. boom, b. brails, c. fore halyard, d. fore sheets, e. forestay, f. main halyard, g. main sheets, h. mainmast, i. mizzen mast, j. mizzen sheet, k. reef cringle, l. reef points, m. shrouds, n. spring hanks, o. topping lift,	Interactive Lecture	15 min	7 (pp. 251– 253)

TP	Description	Method	Time	Refs
	p. traveller, and q. yard (lug).			
TP3	Demonstrate how to rig a whaler for sail.	Demonstration	35 min	7 (p. 253)
TP4	Explain and demonstrate how to respond to the following sailing orders: a. back the foresail, b. brail up, c. dip the lug, d. gybe ho, e. heave to, f. helm's a lee / coming about, g. ready about, h. reset the main / foresail, i. standby to gybe, and j. top up.	Demonstration	40 min	7 (p. 289, p. 290)
TP5	Demonstrate how to de-rig a whaler.	Demonstration	15 min	7 (p. 253)

5. Time:

a.	Introduction / Conclusion:	10 min
b.	Interactive Lecture:	20 min
c.	Demonstration:	90 min
d.	Total:	120 min

6. Substantiation:

- a. An interactive lecture was chosen for TPs 1 and 2 to orient the students to knowledge and skills required to operate a whaler under sail.
- b. A demonstration was chosen for TPs 3–5 as it allows the instructor to demonstrate the whaler sailing skills required while preparing the students to operate a whaler under sail in a controlled environment.

7. References:

- a. SBN 11-770973-5 Royal Navy. (1972). *Admiralty manual of seamanship (Vol. 1)*. London, England: Her Majesty's Stationery Office.
- b. Director of Cadets and Junior Canadian Rangers 6. (2014). *SCOP Reference Cards*. Ottawa, ON: Department of National Defence.
- c. Director of Cadets and Junior Canadian Rangers. (2015). *Reference Guide for Rigging and Sailing the 27 Foot Service Whaler*. Ottawa, ON: Department of National Defence.

8. **Training Aids:**

- a. Fully equipped whaler,
- b. Whaler sailing orders handout, and
- c. Laminated whaler sailing checklist.

9. **Learning Aids:**

- a. Fully equipped whaler,
- b. Whaler sailing orders handout, and
- c. PFD.

10. **Test Details:** This EO is assessed IAW Chapter 3, Annex A.

11. **Remarks:** This lesson may be conducted in a whaler mock-up if necessary.

EO 005.04

1. **Performance:** Prepare to Operate a Whaler Under Power
2. **Conditions:**
 - a. Given:
 - (1) Fully equipped whaler,
 - (2) Personal floatation device (PFD),
 - (3) Supervision, and
 - (4) Assistance as required.
 - b. Denied: Nil.
 - c. Environmental: During daylight hours, in suitable weather conditions, IAW A-CR-CCP-030/PT-001, *Water Safety Orders*.
3. **Standard:** The student shall prepare to operate a whaler under power, to include:
 - a. describing the characteristics of a whaler motor; and
 - b. describing the handling characteristics of a whaler under power.
4. **Teaching Points:**

TP	Description	Method	Time	Refs
TP1	Describe whaler motor characteristics, to include: <ol style="list-style-type: none"> a. mounting location, b. overboard discharge, c. throttle controls, and d. non-directional thrust. 	Interactive Lecture	10 min	7a (p. 5-12, p. 5-53)
TP2	Describe handling characteristics, to include: <ol style="list-style-type: none"> a. principles of control, b. momentum, c. effects of wind, and d. effects of tides and currents. 	Interactive Lecture	15 min	7b (pp. 6–14)
TP3	Describe slipping and coming alongside a jetty.	Interactive Lecture	10 min	

5. **Time:**
 - a. Introduction / Conclusion: 5 min
 - b. Interactive Lecture: 35 min
 - c. Total: 40 min

6. **Substantiation:** An interactive lecture was chosen for this lesson to orient the students to the knowledge and skills required for operating a whaler under power.
7. **References:**
 - a. BON-050-002/PT-004 Command of the Defence Council. (1995). *BR 67 Admiralty manual of seamanship*. London, England: Her Majesty's Stationary Office Publications Centre.
 - b. ISBN 97-8190510483-3 Gibson, R. (2008). *Introduction to boat handling for sail and power*. Southampton, England: The Royal Yachting Association.
8. **Training Aids:** Fully equipped whaler.
9. **Learning Aids:** Fully equipped whaler.
10. **Test Details:** This EO is assessed IAW Chapter 3, Annex A.
11. **Remarks:** Nil.

EO 005.05

1. **Performance:** Operate a Whaler
2. **Conditions:**
 - a. Given:
 - (1) Fully equipped whaler,
 - (2) Personal floatation device (PFD),
 - (3) Supervision, and
 - (4) Assistance as required.
 - b. Denied: Nil.
 - c. Environmental: During daylight hours, in suitable weather conditions, IAW A-CR-CCP-030/PT-001, *Water Safety Orders*.
3. **Standard:** The student shall operate a whaler while acting as a member of the crew and as a coxswain.
4. **Teaching Points:**

TP	Description	Method	Time	Refs
TP1	Demonstrate and have the students respond to the following pulling orders: <ol style="list-style-type: none"> a. back together, b. boat your oars, c. bow, d. easy all, e. eyes in the boat, f. give way together, g. hold water, h. lay on oars, i. mind your oars, j. oars, k. ship your oars, l. shove off, m. stand by, n. stroke together, and o. way enough. 	Demonstration and Performance	40 min	7a (pp. 286–287)
TP2	Conduct a review of SCOP Module 3 elements to include: <ol style="list-style-type: none"> a. mooring, b. anchoring, c. beaching, and d. securing to a jetty. 	Practical Activity		7d

TP	Description	Method	Time	Refs
TP3	<p>Conduct an activity where the students will act as a member of the crew and coxswain of a whaler under oars, to include:</p> <ul style="list-style-type: none"> a. respond to pulling orders; b. stopping; c. backing; d. turning at rest; e. coming alongside a jetty; and f. acting as a coxswain, to include: <ul style="list-style-type: none"> (1) giving commands; (2) supervising actions of the crew; (3) taking corrective action; and (4) ensuring safe manoeuvring. 	Practical Activity		7a (pp. 286–288, pp. 312–317)
TP4	<p>Conduct activities where the students will act as a member of the crew and coxswain of a whaler under power, to include:</p> <ul style="list-style-type: none"> a. slipping a jetty; b. coming alongside a jetty; c. turning; d. stopping; and e. emergency manoeuvring. 	Practical Activity		7a (pp. 312–317) 7b (pp. 27–28, p. 30, pp. 42–43)
TP5	<p>Conduct activities where the students will act as a member of the crew and coxswain of a whaler under sail, to include:</p> <ul style="list-style-type: none"> a. rigging; b. slipping from a jetty; c. tacking; d. coming about; e. resetting the main / foresail; f. dipping the lug; g. gybing; h. backing the foresail; i. stopping; j. running; k. reaching; l. coming alongside a jetty; m. de-rigging; n. responding to sail orders; and o. acting as a coxswain, to include: <ul style="list-style-type: none"> (1) giving commands; (2) supervising actions of the crew; (3) taking corrective actions; and (4) manoeuvring safely. 	Practical Activity		7a (pp. 289–292, pp. 299–302, pp. 304–305, pp. 312–317)

5. Time:

- a. Introduction / Conclusion: 10 min

- b. Demonstration and Performance: 40 min
- c. Practical Activity: 1230 min
- d. Total: 1280 min

6. **Substantiation:**

- a. A demonstration and performance was chosen for TP 1 as it allows the instructor to explain and demonstrate whaler pulling skills while providing an opportunity for the students to practice pulling a whaler in a controlled environment.
- b. A practical activity was chosen for TPs 2–5 as it allows the students to practice whaler skills and act as coxswain of a whaler under supervision. This activity contributes to the development of necessary skills and knowledge required to coxswain a whaler when under oars, power, or sail in a fun and challenging setting.

7. **References:**

- a. SBN 11-770973-5 Royal Navy. (1972). *Admiralty manual of seamanship* (Vol. 1). London, England: Her Majesty's Stationery Office.
- b. ISBN 97-8190510483-3 Gibson, R. (2008). *Introduction to boat handling for sail and power*. Southampton, England: The Royal Yachting Association.
- c. Director of Cadets and Junior Canadian Rangers 6. (2014). *SCOP Reference Cards*. Ottawa, ON: Department of National Defence.
- d. A-CR-CCP-923/PG-001 Director of Cadets and Junior Canadian Rangers 4. (2015). *Small Craft Operators Program – Module 3, Powerboat*. Ottawa, ON: Department of National Defence.

8. **Training Aids:**

- a. Fully equipped whaler,
- b. PFD,
- c. Ten buoys with line and weight,
- d. Four marker cones, and
- e. Two pylons.

9. **Learning Aids:**

- a. Fully equipped whaler,
- b. PFD,
- c. Ten buoys with line and weight,

- d. Four marker cones, and
- e. Two pylons.
- f. Whaler Pulling Orders handout, and
- g. Whaler Sailing Orders handout.

10. **Test Details:** This EO is assessed IAW Chapter 3, Annex A.

11. **Remarks:**

- a. The review of SCOP Module 3 elements in TP2 is intended to reinforce the requirements for local conditions and the existing skill set of the students.
- b. Time for TPs 2–5 must stay within the allocation; however the instructor has the flexibility of weighting the amount of time based on the skill set of the students.
- c. Approximate weighting of time is suggested as follows:
 - (1) Pulling 120 minutes (10% +/-)
 - (2) Power 180 minutes (15% +/-)
 - (3) Sailing 930 minutes (75% +/-)



SMALL CRAFT OPERATOR PROGRAM

MODULE 5 – WHALER

INSTRUCTIONAL GUIDES



1. The IG provides instructors with the base means from which to deliver training. Individual IGs are to be reviewed in conjunction with the LSs, when developing lesson plans, so that each instructor can adequately plan for and prepare each lesson. Instructors may be required to develop instructional materials to support training in addition those provided, eg, posters, videos, handouts, models, etc, supplemental to training control and support documents. Suggested instructional activities are included in the IGs to maximize learning and fun. Instructors are also encouraged to modify / enhance the activities, as long as they continue to contribute to enabling objective achievement.
2. Throughout the IGs, a series of information boxes are used to highlight information; they include:



Note to the Instructor.



Key information to pass along to the students.



Refer to the following CAF regulations and policies.



Points of interest or special instructions the instructor should pass along to the students.



SMALL CRAFT OPERATOR PROGRAM

MODULE 5 - WHALER

INSTRUCTIONAL GUIDE

SECTION 1

EO 005.01 – PREPARE TO OPERATE A WHALER



Total Time:	80 min
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PREPARATION

PRE-LESSON INSTRUCTIONS

This IG supports EO 005.01 (Prepare to Operate a Whaler).

Photocopy and cut the equipment tags located at Annex A.

Gather the required resources:

- Fully equipped whaler or mock up.
- Mandatory equipment as per *Small Vessel Regulations*.

PRE-LESSON ASSIGNMENT

Nil.

APPROACH

An interactive lecture was chosen for TPs 1 and 3–5 to illustrate the principles and concepts for operating a whaler.

An in-class activity was chosen for TP 2 as it is an interactive way to provoke thought and stimulate an interest in safety equipment required for operating a whaler.

INTRODUCTION

REVIEW

Nil.

OBJECTIVES

By the end of this lesson the student shall have selected personal clothing, identified and stowed safety equipment, and explained how to deal with equipment failures.

IMPORTANCE

It is important for the students to participate safely in whaler training to prevent injuries to themselves and others on board.



This lesson may be conducted onshore (in a mock-up) or alongside (on the water).

Teaching Point 1

Explain the requirements for personal clothing, equipment and personal safety.

Time: 10 min

Method: Interactive Lecture

PERSONAL CLOTHING AND EQUIPMENT

Personal Floatation Device (PFD)



IAW *Water Safety Orders*, students must be wearing PFDs if training on the water.



Review the difference between a PFD and a life jacket and how to choose and care for a PFD. This material was taught during SCOP Module 1, Lesson 001.02.



For the policies on wearing PFDs refer to A-CR-CCP-030/PT-001, *Water Safety Orders*.

Footwear

Footwear for whaler training must be soft-soled to enable better traction on the surfaces of a whaler and closed-toed to help prevent injuries to the students' feet (running shoes fit these criteria).



For the policy on footwear refer to A-CR-CCP-030/PT-001, *Water Safety Orders*.

Headgear

Headgear for whaler training is selected based on the weather forecast. For example:

- wide-brimmed hat or ball cap for sunny days, and

- toques for cold days.

PERSONAL SAFETY



To prevent injury, students should never walk or stand on thwarts or gunwales. Hands and fingers should always stay inside the whaler and never rest on gunwales.

Embarking and Disembarking a Whaler

For safety, it is important to follow procedures for getting in and out of the whaler. Although it is difficult, when embarking the whaler, step toward the centre of the whaler. While disembarking the whaler, step over the gunwale onto the jetty, or other boat.

Transitioning From Sail to Pull

There are safety hazards in a whaler while making the transition from sail to pull. Take precautions and move carefully, stepping over the thwarts. Be aware of where the hands and feet are at all times (they must be inside the whaler and free of any lines, blocks, etc) to prevent injuries. Keep "eyes in the boat" at all times and be aware of all moving parts.

When the yard is being raised or lowered, say the cautionary word "heads" to bring attention to the hazard. Simultaneously, raise hands to fend off the swinging yard.



It is important for the safety of everyone that the whaler be balanced at all times. The whaler remains stable by ensuring that the weight of the crew and gear is distributed evenly.

CONFIRMATION OF TEACHING POINT 1

QUESTIONS:

- Q1. What are two requirements for PFDs?
- Q2. What type of footwear must be worn for whaler training?
- Q3. What type of headgear should be worn on a sunny day?

ANTICIPATED ANSWERS:

- A1. As per SCOP Module 1.
- A2. Soft-soled and closed-toed shoes.
- A3. A wide-brimmed hat or ball cap.

Teaching Point 2

Conduct an activity where the students will identify the safety equipment to be carried onboard a whaler.

Time: 30 min

Method: In-Class Activity



Review the *Small Vessel Regulations* minimum requirement for safety equipment that must be carried onboard.

This material was covered in SCOP Module 1, Lesson 001.03.



Check *Water Safety Orders* to determine the additional equipment required onboard a whaler.

ACTIVITY

1. Divide the students into two teams.
2. Have each student draw an equipment tag from the draw box.
3. Have the student point out the piece of equipment indicated on their equipment tag.
4. Award a point if the student is correct.
5. If not, allow the other team to point out the equipment and award the team two points.
6. Repeat Steps 2–5 until all the tags have been drawn.
7. Discuss any errors.

CONFIRMATION OF TEACHING POINT 2

The students' participation in the activity will serve as the confirmation of this TP.

Teaching Point 3

Time: 10 min

Explain stowing a whaler.

Method: Interactive Lecture

BALANCING

Careful thought must be given to maintaining boat balance when stowing a whaler to ensure safe and effective handling. An improperly balanced whaler could lead to poor stability causing the whaler to be unsafe.

ACCESSING SAFETY EQUIPMENT

Safety equipment must always be readily accessible during whaler operations. Care must be taken during stowing to ensure that safety equipment is easily accessible, as this equipment may be necessary in an emergency situation.

ACCESSING OPERATIONAL EQUIPMENT

Operational equipment, such as oars / sweeps, and sailing equipment must also be accessible during operations. This equipment is the means of propulsion for the whaler and may be required for use at any time.

LOADING AND UNLOADING

To facilitate boat balance, heavier items should be loaded first and placed as low as possible in the centre of the whaler. When unloading the whaler, lighter and higher placed items should be unloaded first, followed by heavier and lower placed items.

CONFIRMATION OF TEACHING POINT 3

QUESTIONS:

- Q1. Why must boat balance be maintained in a whaler?
- Q2. Why is it important to ensure that safety equipment is easily accessible?
- Q3. What items should be loaded first in the whaler?

ANTICIPATED ANSWERS:

- A1. To provide safe and effective handling.
- A2. It may be necessary in an emergency situation.
- A3. Heavier items.

Teaching Point 4

Explain how to transition from one propulsion method to another.

Time: 15 min

Method: Interactive Lecture



Explain how to transition from one propulsion method to another, to include:

- a. sail to pull,
- b. pull to sail,
- c. sail to power,
- d. power to sail,
- e. pull to power, and
- f. power to pull.

CONFIRMATION OF TEACHING POINT 4

The students' participation in the activities in EO 005.05, Operate a Whaler will serve as the confirmation of this TP.

Teaching Point 5

Explain the response to equipment failure.

Time: 10 min

Method: Interactive Lecture

EQUIPMENT FAILURE

There are pieces of equipment that can fail onboard a whaler. Some equipment is not critical to the total operation of the whaler or can be replaced with other means of operation (eg, if the

engine fails, transition to sail or oars). However, the three main failures that occur on a whaler are:

- loss of rudder,
- loss of drop keel, and
- hull breach.

Loss of Rudder

If the whaler experiences the loss of its rudder, manoeuvrability is affected. If the loss is minor, such as a yolk breaking, it can be repaired with spare line usually kept on board. If the loss is more significant, such as the rudder is missing or non-operational, then total loss of steering is inevitable.

To resolve the loss of a rudder, lash a spare oar / sweep to the stern of the whaler and operate it as an oar to push the stern.



Show the positioning and lashing of an oar / sweep used for a loss of rudder.

Loss of Drop Keel

The loss of a drop keel affects a whaler under sail and may also hinder the operation of a whaler under oars or power. Failure of the drop keel occurs in two different manners:

- loss of control to raise and lower, and
- detachment from hull.

If the failure is due to the loss of control to raise and lower the drop keel, the solution is to secure the drop keel in the raised position. To secure the drop keel, a line must be placed around the hull of the whaler amidships and secured tightly to hold the drop keel in the keel box.

If the drop keel has detached from the hull of the whaler, it does not slide into the keel box. This becomes a hazard that may get fouled on submerged dangers and cause further damage to the hull. The solution is to free the whaler of the detached drop keel. To release the drop keel, the winch control must be turned to let out all of the cable until it is free. The weight of the drop keel causes it to fall to the seabed and the whaler is free of the detached drop keel.



Letting the drop keel fall to the seabed results in the total loss of the drop keel, leading to an expense to replace it. If it is necessary to release the drop keel in such a manner, the coxswain should make every effort to do so in an area where the drop keel may be recovered and make note of coordinates or landmarks for easy recovery.

Hull Breach

A hull breach is one of the most serious failures that any vessel can suffer. In simple terms, it means that there is a hole in the hull. In most cases, the inherent floatation of the whaler keeps

it afloat. However, with water in the whaler it is not safe or manoeuvrable. The best action is to stop or slow the source of flooding through the hull and bail as much water as possible.

Plug a hole using damage control plugs and rags. However, damage control plugs are not always readily available in a whaler so another method to slow the ingress of water is to cover the hole on the outer side of the hull. This can be done by passing a sail under the bow of the boat and hauling it taut causing a partial seal around the hole. This does not stop the leak, but slows the ingress of water.



Wrap a sail around a part of the hull to show the students this process.

CONFIRMATION OF TEACHING POINT 5

QUESTIONS:

- Q1. What piece of equipment can be used if the rudder is lost?
- Q2. What is the danger when suffering a detached drop keel?
- Q3. What keeps a whaler floating, even with water in it?

ANTICIPATED ANSWERS:

- A1. An oar / sweep.
- A2. It may get fouled on submerged dangers causing further hull damage.
- A3. Inherent floatation.

END OF LESSON CONFIRMATION

The students' participation in the practical activity will serve as the confirmation of this lesson.

CONCLUSION

HOMEWORK / READING / PRACTICE

Nil.

METHOD OF EVALUATION

Nil.

CLOSING STATEMENT

Whaler training is an exciting team-building activity found within the seamanship specialty area. The knowledge and ability to safely crew a whaler and use emergency equipment is used in other aspects of nautical training.

INSTRUCTOR NOTES / REMARKS

The lesson may be completed in a mock-up or alongside.

REFERENCES

A-CR-CCP-030/PT-001 Director Cadets and Junior Canadian Rangers 4. (2005). *Water safety orders*. Ottawa, ON: Department of National Defence.

Canadian Red Cross. (1999–2006). *PFD checklist*. Retrieved October 16, 2007, from <http://www.redcross.ca/article.asp?id=001039&tid=024>

SBN 0 II 771958 7 Royal Navy. (1967). *Admiralty manual of seamanship 1964* (Vol. 2). Cambridge, England: Her Majesty's Stationery Office.

Office of Boating Safety. (2006). *Safe boating guide*. Ottawa, ON: Her Majesty the Queen in Right of Canada, as represented by Transport Canada.

A-CR-CCP-920/PG-001 Director Cadets and Junior Canadian Rangers 4. (2015). *Small Craft Operator Program, Module 1 - PCOC*. Ottawa, ON: Department of National Defence.

EQUIPMENT TAGS

Buoyant Heaving Line	Lifebuoy / Kisby Ring
Re-boarding Device	Anchor and Line
Manual Water Pump	Watertight Flashlight
Bailer	Sound Signalling Device
First Aid Kit	Class 10BC Fire Extinguisher
Safety Lines	Navigation Lights
Spare Re-boarding Device	Spare Oar / Sweep
Two Boat Hooks	Magnetic Compass
Marine Radio	Fenders
Blankets	Spare Lifebuoy / Kisby Ring



SMALL CRAFT OPERATOR PROGRAM

MODULE 5 - WHALER

INSTRUCTIONAL GUIDE



SECTION 2

EO 005.02 – PREPARE TO OPERATE A WHALER UNDER OARS

Total Time:	80 min
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PREPARATION

PRE-LESSON INSTRUCTIONS

This IG supports EO 005.02 (Prepare to Operate a Whaler Under Oars).

Ensure the students have their *SCOP Reference Cards*.

PRE-LESSON ASSIGNMENT

Nil.

APPROACH

An interactive lecture was chosen for TPs 1 and 3–4 to orient the students to the knowledge and skills required for operating a whaler under oars.

A practical activity was chosen for TP 2 as it allows students to identify parts of the whaler under supervision. This activity contributes to the development of necessary skills and knowledge required to coxswain a whaler under oars, power and sail in a fun and challenging setting.

INTRODUCTION

REVIEW

Nil.

OBJECTIVES

By the end of this lesson the student shall have prepared to operate a whaler under oars.

IMPORTANCE

It is important for students to know how to act as a coxswain of a whaler under oars because it promotes leadership skills and teamwork. Skills and knowledge obtained from acting as a

coxswain of a whaler under oars contributes to the student successfully attaining a Sea Boat Coxswain qualification in preparation for advanced training opportunities.



Have the students refer to the *SCOP Reference Cards* throughout the lesson.



This lesson may be conducted onshore (in a mock-up) or alongside (on the water).

Teaching Point 1

Identify parts of a whaler.

Time: 15 min

Method: Interactive Lecture

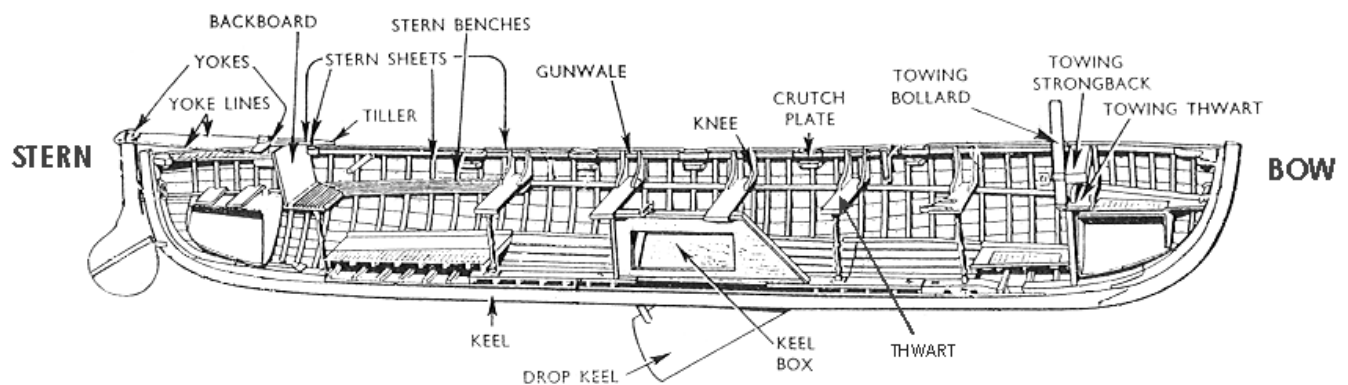


Figure 1 Parts of a Whaler

Note. From *Admiralty of Seamanship 1964* (Vol. 1) (p. 224), by Her Majesty's Stationery Office, 1972, London England: HMSO Publications. Copyright 1972 by Her Majesty's Stationery Office.



The whaler illustrated in Figure 1 is wooden, which may not be exactly the same as the fibreglass whalers used at the various training establishments.

Backboard. The board that is located vertically behind the stern benches (usually ornate).

Bow. The fore part.

Crutch. Metal U-shaped fittings used to support the oars / sweeps while pulling (as illustrated in Figure 2). High part of the crutch faces forward.



Figure 2 Whaler Crutch

Crutch plate. The metal fitting in the gunwale that supports the crutches.

Drop keel. The large flat object that can be lowered from the keel box, through the bottom of the whaler to prevent capsizing or drifting sideways when sailing.

Gunwale. The ridge that runs along the inside upper edge.

Keel. The heavy ridge that runs along the fore and aft midships line that forms the 'backbone'.

Keel box. The compartment that houses the drop keel.

Knee. The fittings that secure the thwarts to the sides (might not be found in all types of whalers).

Stern. The back part.

Stern benches. The benches or seats located in the stern for the coxswain to sit.

Stern sheets. The space extending from the stroke thwart to the backboard.

Stretcher. The angled boards where the crew rest their feet while pulling (not illustrated).

Thwart. The benches where the crew sit.

Tiller. The handle used to control the direction of the rudder.

Towing bollard. The strong piece of timber used for towing or anchoring the whaler.

Towing strongback. The strong piece of timber located directly in front of and supporting the towing bollard.

Towing thwart. The forward most thwart to which the bottom of the towing bollard is attached.

Yoke. The extensions protruding from the sides of the tiller / rudder that allow them to be connected by the yoke lines (as illustrated in Figures 3 and 4).

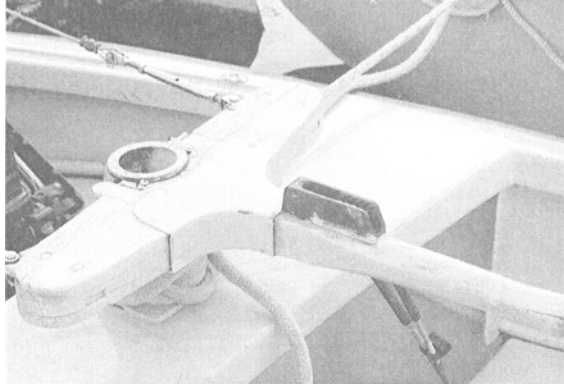


Figure 3 Tiller Yokes

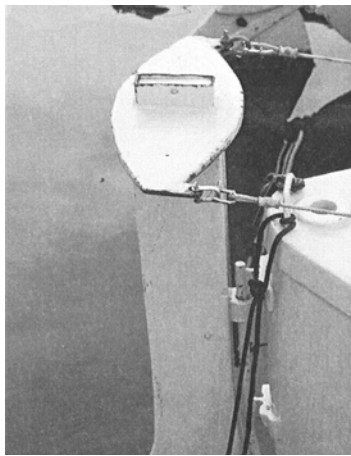


Figure 4 Rudder Yokes

Yoke lines. The lines / wires used to connect the tiller yoke to the rudder yoke.

CONFIRMATION OF TEACHING POINT 1

QUESTIONS:

- Q1. What are the stretchers?
- Q2. Where are the crutch plates located?
- Q3. What supports the oar / sweep while pulling?

ANTICIPATED ANSWERS:

- A1. The angled boards where the crew rest their feet while pulling.
- A2. In the gunwale.
- A3. The crutch.

Teaching Point 2

Conduct an activity where the students will identify parts of the whaler.

Time: 20 min

Method: Practical Activity

ACTIVITY

1. Divide the students into two teams.
2. Give each student a part of the whaler and have them locate it on the whaler.
3. Award one point for each correct answer.
4. Repeat the steps until all the parts have been identified.
5. Discuss any errors and acknowledge the winning team.

CONFIRMATION OF TEACHING POINT 2

The students' participation in this activity will serve as the confirmation of this TP.

Teaching Point 3

Describe the parts of an oar / sweep.

Time: 10 min

Method: Interactive Lecture

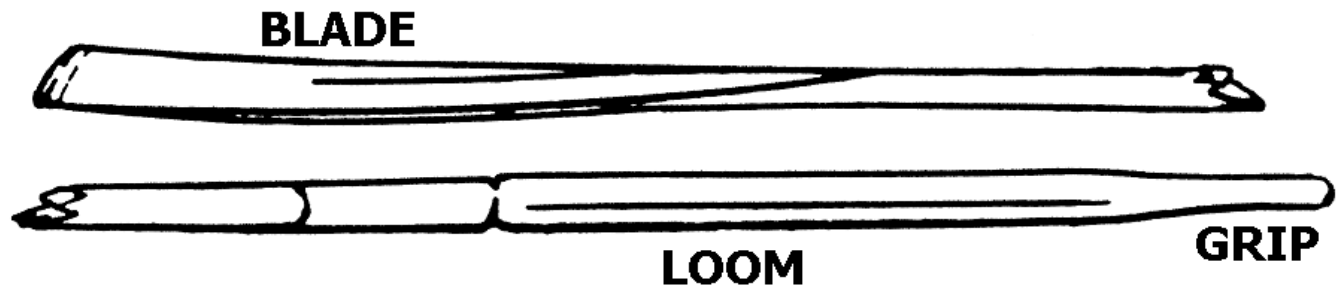
PARTS OF AN OAR / SWEEP

Figure 5 Parts of an Oar / Sweep

Blade. The thin part that moves in and out of the water (usually scoop shaped).

Loom. The long centre part.

Grip. The handle.

CONFIRMATION OF TEACHING POINT 3**QUESTIONS:**

- Q1. What is the blade of an oar / sweep?
- Q2. What is the loom of an oar / sweep?
- Q3. What is the handle of an oar / sweep called?

ANTICIPATED ANSWERS:

- A1. The part that moves in and out of the water.
- A2. The centre part.
- A3. The grip.

Teaching Point 4**Describe the pulling positions and their responsibilities.**

Time: 25 min

Method: Interactive Lecture

THE STROKE CYCLE

Students should sit on the thwarts with their backs straight, their feet resting on the stretchers, and grasping the grips of their oars / sweeps with their hands approximately 30 cm (12 inches) apart. Elbows should be pulled in close to the sides of the body. As students pull, their wrists bend to ensure that the blade is vertical while it is in the water.

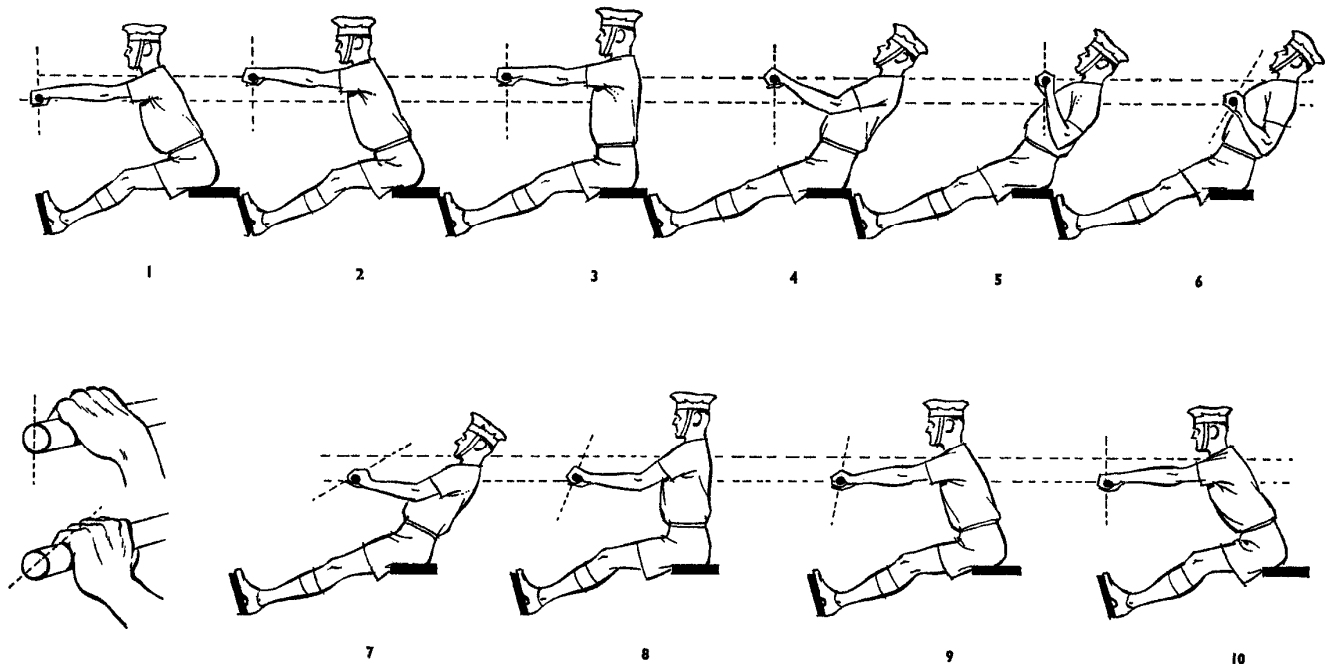


Figure 6 The Stroke Cycle

WHALER PULLING POSITIONS

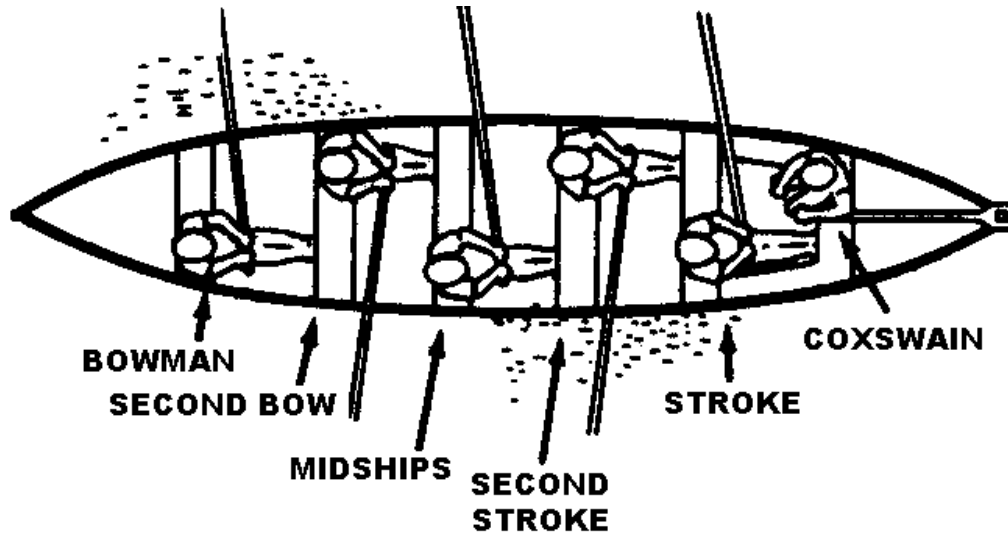


Figure 7 Whaler Pulling Positions

Pulling positions for a whaler are titled according to their location. The second bow, midships and second stroke positions have no other responsibilities. The stroke, bowman and coxswain hold specific responsibilities within the operation of a whaler under oars. They are outlined below:

Bowman. The bowman is responsible for manning the bow line when coming alongside.

Stroke. The stroke sets the pulling pace for the crew. The stroke is also responsible for manning the stern lines when coming alongside. This may also be the designated second in command.

Coxswain. The coxswain is responsible for the control and safe operation of the whaler. These responsibilities include rigging for pulling, loading the whaler, steering the whaler and giving orders to the crew.

CONFIRMATION OF TEACHING POINT 4

QUESTIONS:

- Q1. Where is the midships located?
- Q2. Where does the coxswain sit in a whaler?
- Q3. What is the stroke responsible for?

ANTICIPATED ANSWERS:

- A1. On the centre thwart.

- A2. At the stern of the boat.
- A3. Setting the pulling pace and manning the stern lines when coming alongside.

END OF LESSON CONFIRMATION

The students' participation in the activity will serve as the confirmation of this lesson.

CONCLUSION

HOMEWORK / READING / PRACTICE

Nil.

METHOD OF EVALUATION

This EO is assessed IAW Chapter 3.

CLOSING STATEMENT

Preparing to act as a coxswain of a whaler under oars is an important aspect of whaler operation. Being able to perform these skills will prove essential as you progress towards the Sea Boat Coxswain qualification.

INSTRUCTOR NOTES / REMARKS

This lesson may be conducted in a whaler mock-up.

REFERENCES

SBN 11-770973-5 Royal Navy. (1972). *Admiralty manual of seamanship* (Vol. 1). London, England: Her Majesty's Stationery Office.

Director of Cadets and Junior Canadian Rangers 6. (2014). *SCOP reference cards*. Ottawa, ON: Department of National Defence.



SMALL CRAFT OPERATOR PROGRAM

MODULE 5 - WHALER

INSTRUCTIONAL GUIDE



SECTION 3

EO 005.03 – PREPARE TO OPERATE A WHALER UNDER SAIL

Total Time:	120 min
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PREPARATION

PRE-LESSON INSTRUCTIONS

This IG supports EO 005.03 (Prepare to Operate a Whaler Under Sail).

Photocopy and laminate the Whaler Sailing Orders handout located at Annex A for each whaler.

Ensure the students have their *SCOP Reference Cards*.

Additional information on rigging and sailing a whaler can be found in the *Reference Guide for Rigging and Sailing the 27 Foot Service Whaler*, located in the file repository.

PRE-LESSON ASSIGNMENT

Nil.

APPROACH

An interactive lecture was chosen for TPs 1 and 2 to orient the students to knowledge and skills required to operate a whaler under sail.

A demonstration was chosen for TPs 3–5 as it allows the instructor to demonstrate the whaler sailing skills required while preparing the students to operate a whaler under sail in a controlled environment.

INTRODUCTION

REVIEW

Nil.

OBJECTIVES

By the end of this lesson the student shall have identified parts of a whaler, watched a demonstration of rigging and de-rigging a whaler and how to respond to sailing orders.

IMPORTANCE

It is important for students to participate in whaler sail training because it is an exciting team-building activity found within the seamanship specialty area. Skills and knowledge obtained from whaler sailing are transferable to many other aspects of Sea Cadet training such as small craft operations and ropework.



This lesson may be conducted onshore (in a mock-up) or alongside (on the water).

Teaching Point 1

Describe types of sails.

Time: 5 min

Method: Interactive Lecture

SAILS USED ON A WHALER

Foresail. Triangular sail located at the bow of the whaler.

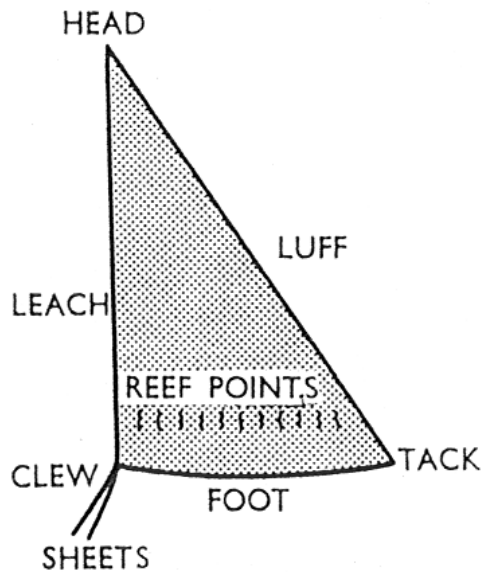


Figure 1 Whaler Foresail

Note. From *Admiralty Manual of Seamanship* (p. 251), by Her Majesty's Stationery Office, 1972, London, England: HMSO Publications. Copyright 1972 by Her Majesty's Stationery Office.

Mainsail. A lugsail—a four-sided sail, the head of which is lashed to a yard (lug).

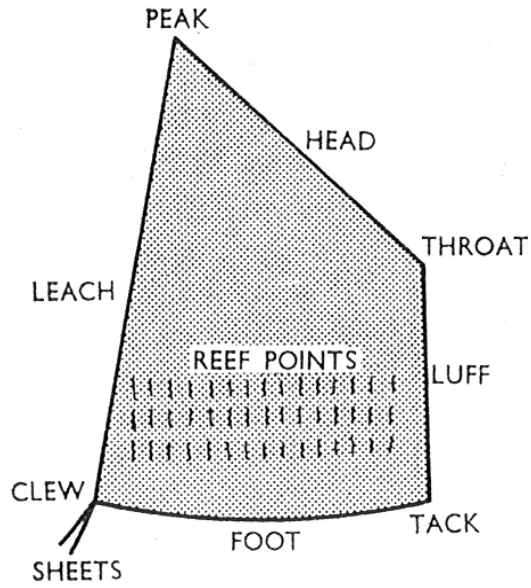


Figure 2 Whaler Mainsail

Note. From *Admiralty Manual of Seamanship* (p. 251), by Her Majesty's Stationery Office, 1972, London, England: HMSO Publications. Copyright 1972 by Her Majesty's Stationery Office.

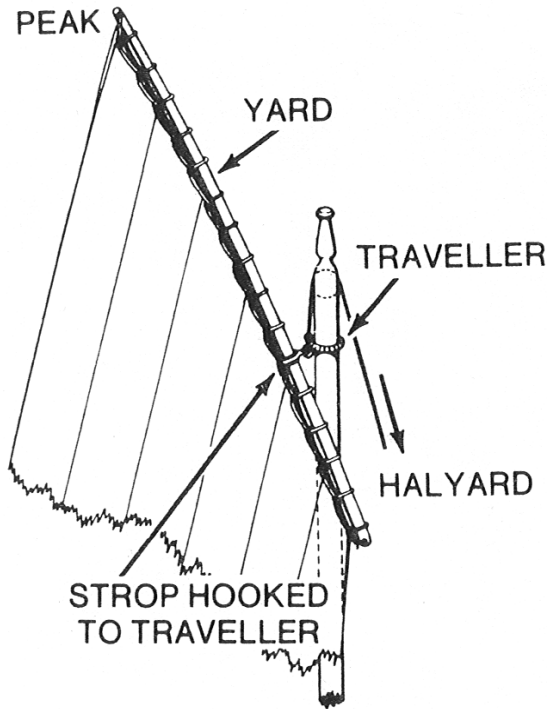


Figure 3 Rigging of a Yard (Lug)

Mizzen sail. Small triangular sail attached to the mizzen mast at the stern of the whaler.

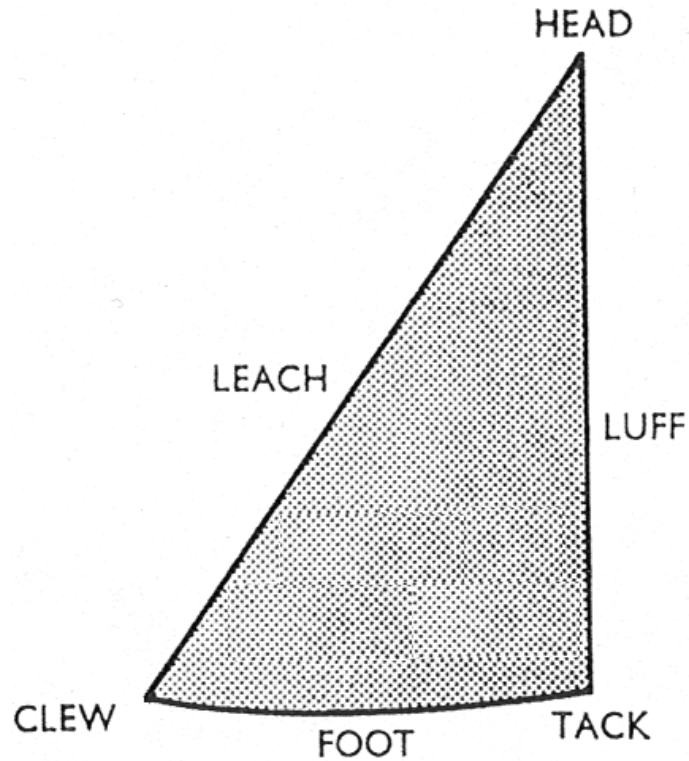


Figure 4 Whaler Mizzen Sail

Note. From Admiralty Manual of Seamanship (p. 251), by Her Majesty's Stationery Office, 1972, London, England: HMSO Publications. Copyright 1972 by Her Majesty's Stationery Office.

CONFIRMATION OF TEACHING POINT 1

QUESTIONS:

- Q1. Where is the mizzen sail located in a whaler?
- Q2. What is the spar attached to the mainsail called?
- Q3. What is the bottom of a sail called?

ANTICIPATED ANSWERS:

- A1. At the stern.
- A2. A yard (lug).
- A3. The foot.

Teaching Point 2**Identify the parts of a whaler and describe their functions.**

Time: 15 min

Method: Interactive Lecture

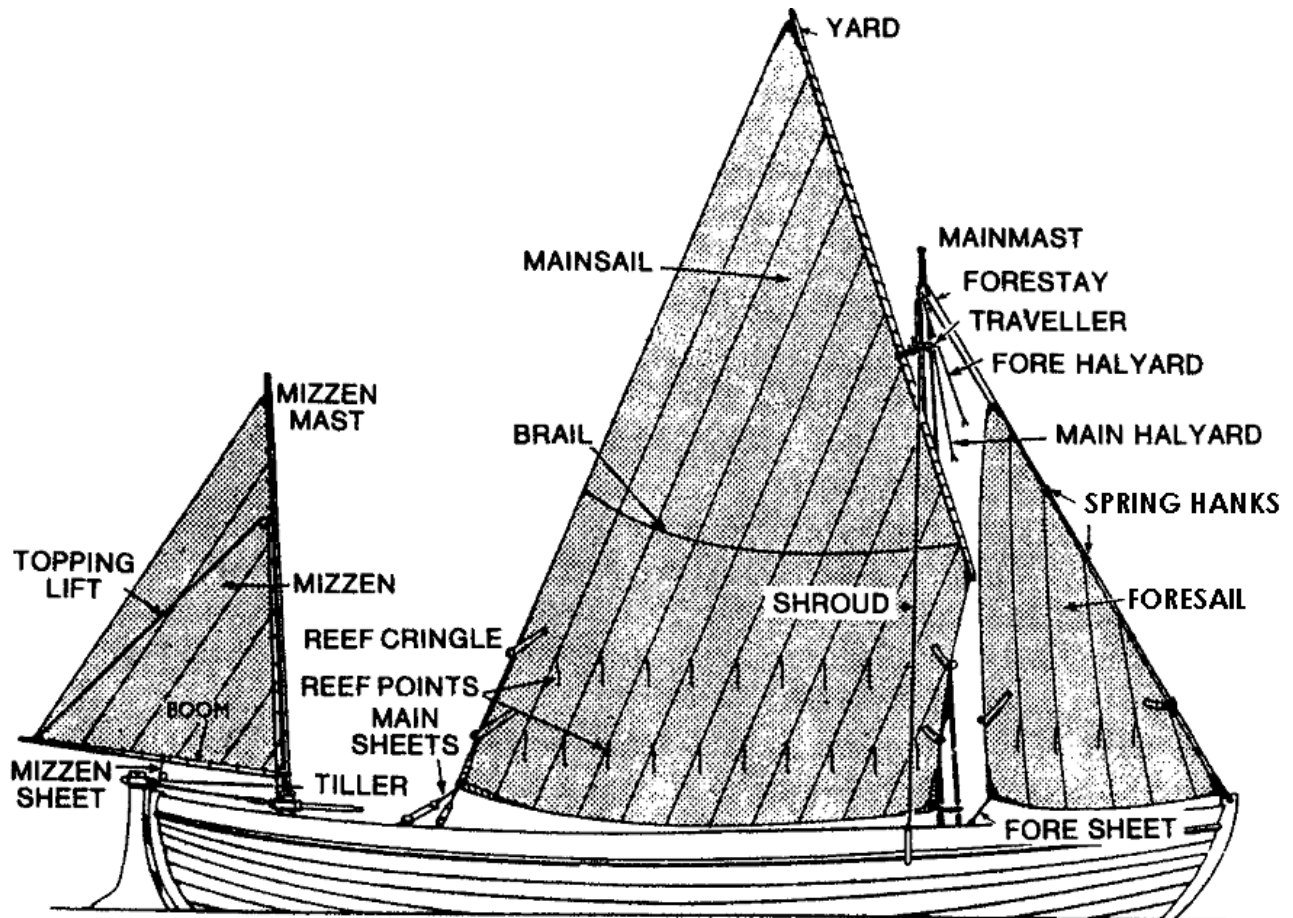


Figure 5 Parts of the Whaler Sailing Rig

Note. From *Admiralty Manual of Seamanship* (p. 253), by Her Majesty's Stationery Office, 1972, London, England: HMSO Publications. Copyright 1972 by Her Majesty's Stationery Office.

Boom. The spar to which the foot of the mizzen sail is attached. It controls the position of the foot of the mizzen sail.

Brails. Lines used to haul in the leech of the mainsail when it is not in use.

Fore halyard. The purchase used to raise and lower the foresail.

Fore sheets. The lines attached to and used to control the clew of the foresail.

Forestay. The line / wire running from the top of the mainmast to the bow of the whaler, that supports the mainmast.

Main halyard. The purchase used to raise and lower the mainsail.

Main sheets. The lines attached to and used to control the clew of the mainsail.

Mainmast. The vertical spar in the centre of the whaler used to support the mainsail.

Mizzen mast. The vertical spar used to support the mizzen sail.

Mizzen sheet. The line attached to the boom that is used to control the foot of the mizzen sail.

Reef cringle. Eyes that are in-line with the reef points that allow the clew to be attached to the main sheets and the tack to the mainmast when the sail is reefed.

Reef points. Lines attached to the mainsail / foresail that are used to make the sail area smaller.

Shrouds. The lines / wires that support the mainmast from the sides.

Spring hanks. The clips used to attach the foresail to the forestay.

Topping lift. The purchase used to haul in the mizzen sail / raise the mizzen boom when not in use.

Traveller. The ring and hook secured around the mainmast that attaches the yard (lug) to the mast.

Yard (Lug). The spar to which the head of the mainsail is lashed. It supports the head of the mainsail.

CONFIRMATION OF TEACHING POINT 2

QUESTIONS:

- Q1. What is the function of the brails?
- Q2. Where is the boom located?
- Q3. What do the shrouds and forestay support?

ANTICIPATED ANSWERS:

- A1. To haul in the leech of the mainsail when it is not in use.
- A2. At the stern of the boat, attached to the mizzen mast and the foot of the mizzen sail.
- A3. The mainmast.

Teaching Point 3**Demonstrate how to rig a whaler for sail.**

Time: 35 min

Method: Demonstration



Demonstrate the procedure for rigging a whaler for sail.

RIGGING A WHALER FOR SAIL**Attaching the Foresail**

1. Secure the head to the fore halyard using a bowline.
2. Attach the luff to the forestay using the spring hanks.
3. Feed the fore sheets through the cleats / eyes on the port and starboard sides.
4. Tie figure eight knots on the ends of the fore sheets.
5. Raise the foresail using the fore halyard.
6. Secure the fore halyard to the cleat / thwart.

Attaching the Mainsail

1. Attach the yard (lug) to the traveller.
2. Attach the tack to the hook on the mainmast.



On some whalers a tack tackle is used in place of an attached hook on the mainmast.

3. Attach the main sheets to the clew.
4. Raise the yard (lug) to the top of the mainmast using the main halyard.



When the yard (lug) is being raised / lowered all students should be facing the mainmast with their eyes on the yard (lug) and their hands in the air. This is to prevent injury should the yard (lug) fall or shift when it is being raised / lowered.

5. Secure the main halyard to the cleat / thwart.

Attaching the Mizzen Sail

1. Secure the mizzen mast in place.
2. Secure the mizzen sheet.
3. Release the topping lift to open the sail.

CONFIRMATION OF TEACHING POINT 3**QUESTIONS:**

- Q1. What knot is used to secure the foresail to the fore halyard?

Q2. The yard (lug) is raised using which purchase?

Q3. What is released to open the mizzen sail?

ANTICIPATED ANSWERS:

A1. A bowline.

A2. The main halyard.

A3. The topping lift.

Teaching Point 4

Explain and demonstrate how to respond to sailing orders.

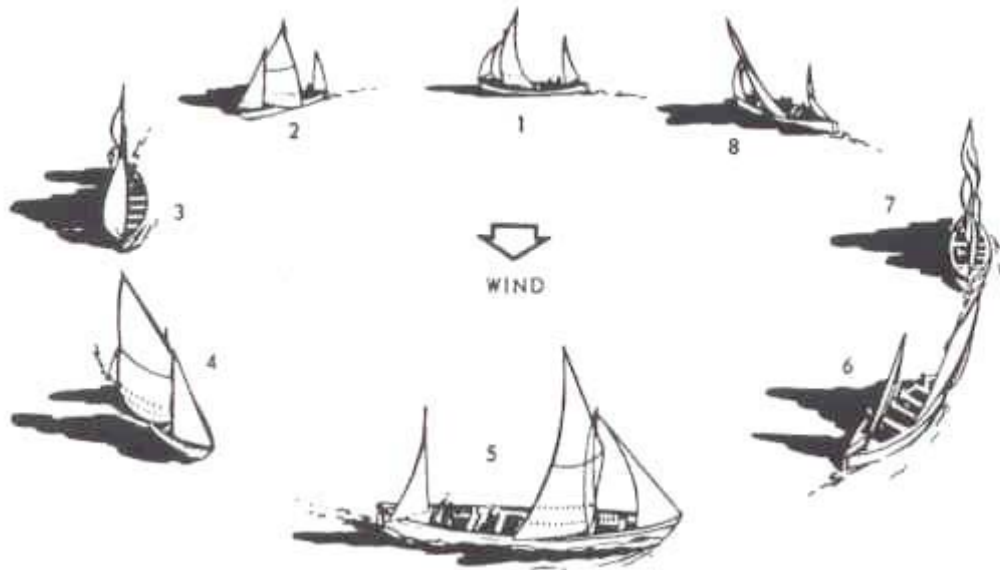
Time: 40 min

Method: Demonstration



Explain to the students that sailing a whaler is similar to sailing a dingy. The theory is the same but uses different terminology.

SAILING A WHALER



SAILING TERMS (SAILING CIRLE)

1. Reaching on the starboard tack
2. Broad reach on the starboard tack
3. Running (and gybing from the starboard tack to the port tack)
4. Broad reach on the port tack
5. Reaching on the port tack
6. Sailing close hauled on the port tack
7. Going about from the port tack to the starboard tack

8. Sailing close hauled on the starboard tack

Figure 6 Points of Sail

Note. From Admiralty Manual of Seamanship (p. 291), by Her Majesty's Stationery Office, 1972, London, England: HMSO Publications. Copyright 1972 by Her Majesty's Stationery Office.

POINTS OF SAIL FOR WHALERS

Beam reach. Sailing with the wind coming over the side of the whaler. Sails are approximately halfway out (as illustrated in Numbers 1 and 5 of Figure 6).

Broad reach. Sailing with the wind coming over the side of the stern. Sails are approximately three-quarters of the way out (as illustrated in Numbers 2 and 4 of Figure 6).

Close hauled. Sailing as close as possible to the wind. Sails are all the way in (as illustrated in Numbers 6 and 8 of Figure 6).

Running. Sailing away from the wind with the sails all the way out (not illustrated in Figure 6).



Number 3 of Figure 6 illustrates gybing.

Number 7 of Figure 6 illustrates tacking.

SAILING TERMS

The term "weather" in sailing means the side from which the wind is coming.

Bearing away / bearing off. Turning the whaler away from the wind.

Beating. The destination is upwind and the whaler must sail using a series of alternate tacks to stay on course.

Flat aback. A sudden shift of wind or altering course that suddenly fills the sails on the wrong side of the whaler.

Flat aft. When the sails are sheeted as taut as possible.

Goosewing. Sails are set on alternate sides while running.

Heading up. Turning the whaler towards the wind.

Hug the wind. To sail as close as possible to the wind.

In irons. When a whaler is directly head to wind.

Leeward. Away from the wind.

Let draw. To let go of the weather sheet after tacking and to haul taut the lee sheet.

Luffing. To alter course towards the wind until the whaler is head to wind.

Port tack. The wind is coming over the port side and the sails are on the starboard side of the whaler.

Reef the mainsail / foresail. To reduce the size of the sail by taking up a designated number of reefing points.

Running by the lee. Running with the mainsail set on the windward side (very dangerous in strong winds).

Starboard tack. The wind is coming over the starboard side and the sails are on the port side of the whaler.

The wind's eye. The direction from which the wind is blowing.

To miss stays. When a whaler fails to go about from one tack to another and returns to its original tack.

Windward. Toward the wind.

SAILING RULES FOR LARGER BOATS

- The crew must sit on the weather side of the boat when beating or reaching and the bowman must keep a lookout ahead and to leeward by looking under the foot of the foresail.
- There should be minimal movement in the boat.
- Standing on the thwarts and climbing the mast is prohibited.
- Sheets must always be kept in hand.
- All running lines must be kept clear and coiled down neatly so that they may run freely.
- Reduce the sail area in heavy winds by reefing up.
- When pulling or sailing in a heavy swell or sea, use a drogue or sea anchor to keep the stern of the whaler to the waves, to prevent riding on the crest of a wave or veering to either side of the course.



Explain and demonstrate the responses to whaler sailing orders.

WHALER SAILING ORDERS

Back the foresail. Push the clew of the foresail to the windward side to help the whaler turn.

Brail up. Haul in the brails to pull the leech of the mainsail towards the yard (lug).

Dip the lug. Move the yard (lug) to the opposite side of the mast using the line that is attached to the bottom of the yard (lug).

Gybe ho. The whaler is gybing (the coxswain pulls the tiller away from the sails).

Heave to. Stop the whaler by backing the foresail, hauling the main sheets taut, pushing the tiller to the leeward side and lashing it in position.

Helm's a lee / coming about. The whaler is tacking / coming about (the coxswain pushes the tiller toward the sails).

Ready about. Prepare the whaler to tack / come about (the bow passes through the wind).

Reset the main / foresail. The crew must reset the sheets of the main / foresail.

Standby to gybe. Prepare to gybe (the stern passes through the wind).

Top up. Lift up the boom on the mizzen sail by hauling in the topping lift.

SLIPPING FROM A JETTY



Leaving or returning to a jetty should be done in a whaler under power. However, it is important to learn and practice using other methods of propulsion in case of engine failure.



Slipping a jetty under sail should not be attempted if there is a strong on-jetty wind. In this case, the coxswain should have the crew pull to a safe distance and then rig for sail.

The following procedure is used for slipping a jetty:

1. At the order **SHOVE OFF**:
 - a. the lug and brail controller shoves off the bow of the whaler and shoves off with their boathook;
 - b. the mainsheet student closest to the jetty shoves off with their boathook and springs the whaler ahead;
 - c. the lug and brail controller and the mainsheet student closest to the jetty sit down on their thwarts; and
 - d. all remaining fenders are brought in.

2. At the order RESET THE MAILSAIL AND THE FORESAIL:
 - a. the lug and brail controller lets the brails fly free and sets the lug on the leeward side of the mast;
 - b. the port or starboard mainsheet student hauls on the sheets to set the mainsail on the leeward side of the whaler;
 - c. the port or starboard foresheet student hauls on the sheets to set the foresail on the leeward side of the whaler; and
 - d. the coxswain lets go the topping lift of the mizzen sail and sets the sail on the leeward side of the whaler.
3. The coxswain steers the whaler clear of any obstacles and continues with training.

COMING ALONGSIDE A JETTY



Coming alongside a jetty under sail should not be attempted if there is a strong on-jetty wind. In this case, the coxswain should have the crew de-rig the whaler and pull alongside the jetty.

When the whaler is within 50 m of the jetty the following procedure is used for coming alongside:

1. At the order BRAIL UP:
 - a. the lug and brail controller hauls on the brails to gather the mainsail up close to the lug;
 - b. the coxswain sails the whaler "head to wind" to take the way off the whaler and uses the foresail and mizzen sail to make way to the jetty at minimal speed; and
 - c. the students closest to the jetty handling the foresheets and mainsheets put out fenders and standby with lines.
2. At the order LET FLY THE SHEETS:
 - a. the students handling the foresheets and mainsheets let the sheets loose so the sails luff; and
 - b. the students handling lines standby to grab onto the jetty with boathooks and pass lines to be secured.

CONFIRMATION OF TEACHING POINT 4

QUESTIONS:

- Q1. What does the order HELM'S A LEE / COMING ABOUT mean?

Q2. What must happen when the order DIP THE LUG is given?

Q3. What does the order BRAIL UP mean?

ANTICIPATED ANSWERS:

A1. That the whaler is tacking / coming about.

A2. The yard (lug) must be moved to the opposite side of the mast using the line attached to the bottom of the yard (lug).

A3. Haul in the brails to pull the leech of the mainsail in towards the mainmast.

Teaching Point 5

Demonstrate how to de-rig a whaler.

Time: 15 min

Method: Demonstration

DE-RIGGING A WHALER

1. Lower the foresail and mainsail.
2. Roll the mainsail towards the yard (lug) and secure with the brails using a marling hitch (as illustrated in Figure 7).

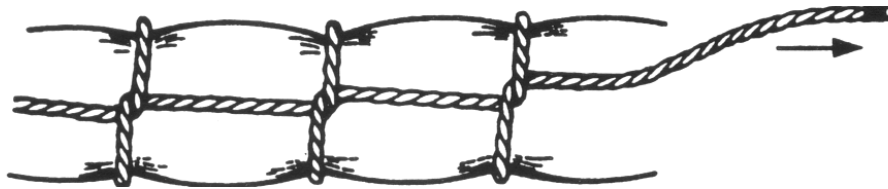


Figure 7 Marling Hitch

Note. From Canadian Forces, CFCD 105 Fleet Seamanship Rigging and Procedures Manual (p. 5-33), by Chief of the Maritime Staff, 1997, Ottawa, ON: Department of National Defence. Copyright 1995 by HMSO Publications.

3. Roll or fold the foresail and place it in the sail bag.
4. Top up the mizzen sail and secure it using a marling hitch.
5. Unstep the mizzen mast.

CONFIRMATION OF TEACHING POINT 5

QUESTIONS:

Q1. How is the mainsail secured to the yard (lug) when preparing it to be stowed?

Q2. How is the foresail stowed?

ANTICIPATED ANSWERS:

A1. It is rolled in towards the yard (lug) and secured with the brails using a marling hitch.

A2. It is rolled or folded and placed in the sail bag.

END OF LESSON CONFIRMATION

The students' participation in preparing to operate a whaler under sail will serve as the confirmation of this lesson.

CONCLUSION

HOMEWORK / READING / PRACTICE

Nil.

METHOD OF EVALUATION

This EO is assessed IAW A-CR-CCP-920/PG-001, *Small Craft Operator Program Qualification Standard and Plan*, Chapter 3.

CLOSING STATEMENT

Whaler sailing is an exciting team-building activity found within the seamanship specialty area. Skills and knowledge obtained from whaler sailing are transferable to many other aspects of sea cadet training such as small craft operations and ropework.

INSTRUCTOR NOTES / REMARKS

TPs 1–5 may be conducted in a whaler mock-up if necessary.

REFERENCES

SBN 11-770973-5 Royal Navy. (1972). *Admiralty manual of seamanship* (Vol. 1). London, England: Her Majesty's Stationery Office.

Director of Cadets and Junior Canadian Rangers 6. (2014). *SCOP Reference Cards*. Ottawa, ON: Department of National Defence.

Director of Cadets and Junior Canadian Rangers. (2015). *Reference Guide for Rigging and Sailing the 27 Foot Service Whaler*. Ottawa, ON: Department of National Defence.

WHALER SAILING ORDERS

Order	Action
BACK THE FORESAIL	Push the clew of the foresail out over the windward side to help the whaler turn.
BRAIL UP	Haul in the brails to pull the leech of the mainsail in towards the mainmast.
DIP THE LUG	Move the yard (lug) to the opposite side of the mast using the line that is attached to the bottom of the yard (lug).
GYBE HO	The whaler is gybing (the coxswain pulls the tiller away from the sails).
HEAVE TO	Stop the whaler by backing the foresail, hauling the main sheets taut, and pushing the tiller to the leeward side and lashing it in position.
HELM'S A LEE / COMING ABOUT	The whaler is tacking / coming about (the coxswain pushes the tiller towards the sails).
READY ABOUT	Prepare the whaler to tack / come about (the bow passes through the wind).
RESET THE MAIN / FORESAIL	The crew must reset the sheets for the main / foresail.
STANDBY TO GYBE	Prepare to gybe (the stern passes through the wind).
TOP UP	Lift up the boom on the mizzen sail by hauling in the topping lift.

SMALL CRAFT OPERATOR PROGRAM**MODULE 5 - WHALER****INSTRUCTIONAL GUIDE****SECTION 4****EO 005.04 – PREPARE TO OPERATE A WHALER UNDER POWER**

Total Time:	40 min
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PREPARATION

PRE-LESSON INSTRUCTIONS

This IG supports EO 005.04 (Prepare to Operate a Whaler Under Power).

PRE-LESSON ASSIGNMENT

Nil.

APPROACH

An interactive lecture was chosen for this lesson to orient the students to the knowledge and skills for operating a whaler under power.

INTRODUCTION

REVIEW

Nil.

OBJECTIVES

By the end of this lesson the student shall have prepared to operate a whaler under power.

IMPORTANCE

It is important for the students to prepare to act as a coxswain of a whaler under power because it contributes to the student successfully attaining a Sea Boat Coxswain qualification in preparation for advanced training opportunities.



Students have already obtained their SCOP Module 3 qualification, so are familiar with the operation of a powerboat. Use this lesson to highlight the differences between the powerboat they conducted their training in and a whaler under power.

Teaching Point 1**Describe whaler motor characteristics.**

Time: 10 min

Method: Interactive Lecture

WHALER MOTOR CHARACTERISTICS**Mounting Location**

A whaler uses a long-shaft outboard motor, mounted in a well at the stern. With the motor mounted and fixed in place, the propeller's thrust is directed aft over the rudder blade to assist in turning. Once a motor is installed in a whaler, it only needs to be removed if maintenance is required.



Figure 1 Long-Shaft Outboard Motor

Overboard Discharge

The motor seizes up within a few seconds if it runs without cooling water. Water is discharged from a small hole, called a tell-tale, on the side of the motor. Water flowing from it indicates that the cooling system is functioning. Since the motor is mounted within a motor well on a whaler, the water discharge can be difficult to see.



The coxswain must always turn around to check the discharge as soon as the motor is started and continue to make periodic checks while it is running.

Throttle Controls

There are two main throttle controls that can be set up on a whaler:

- **Separate throttle arm and gearshift lever.** The throttle is controlled by twisting the throttle handle on the motor's tiller. The gearshift lever may be on the side or mounted on the front of the motor.

- **Combined throttle / gearshift remote control.** The throttle is controlled by a remote unit that is mounted on the starboard side of the whaler's cockpit. By pushing the gearshift lever forward, the motor engages forward and the throttle increases.

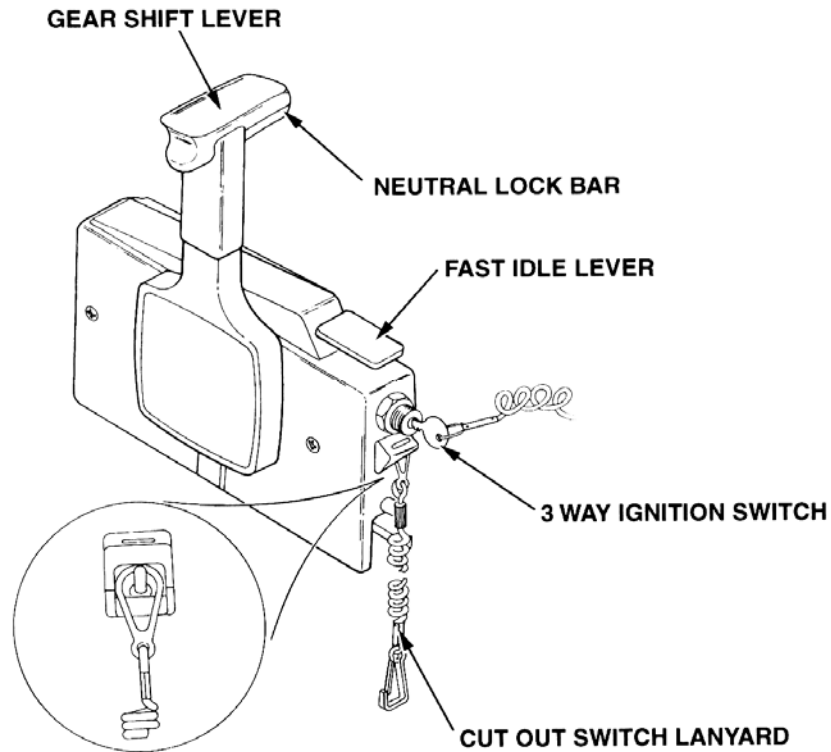


Figure 2 Combined Throttle / Gearshift Remote Control

Note. From *BR 67Admiralty Manual of Seamanship* (p. 5-53), by Her Majesty's Stationery Office, 1995, London, England: HMSO Publications. Copyright 1995 by Her Majesty's Stationery Office.

Considerable care must be taken not to damage the clutch. The coxswain must always pause in neutral for sufficient time to allow the throttle linkage to bring the engine down to idling speed before shifting to another gear.

Non-Directional Thrust

Since the outboard motor is mounted in a fixed position on a whaler, its propeller thrust, or screw current, is directed aft across the whaler's rudder. As the rudder turns, the screw current pushes on the side of the rudder's blade, forcing the stern to swing out. It also swings the bow in the opposite direction.

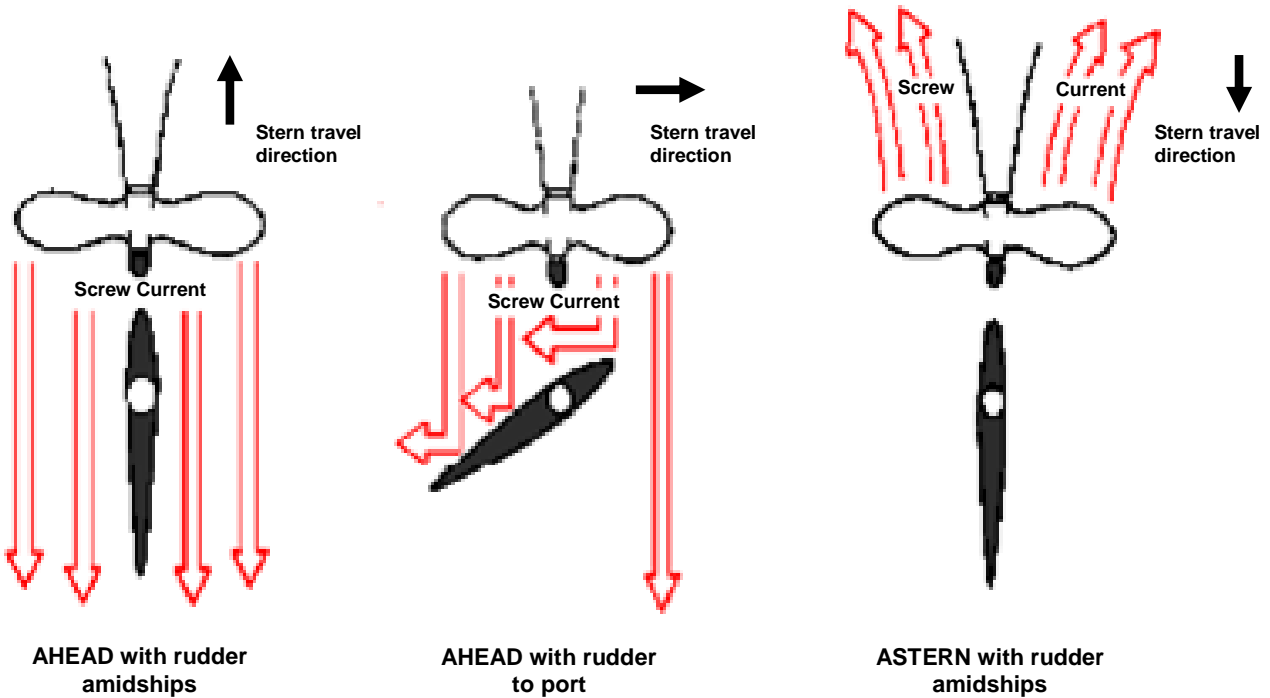


Figure 3 Non-Directional Thrust

CONFIRMATION OF TEACHING POINT 1
QUESTIONS:

- Q1. What indicates the cooling system is functioning on an outboard motor?
- Q2. What are the two main throttle control configurations on a whaler?
- Q3. In what direction is the propeller thrust fixed on a whaler?

ANTICIPATED ANSWERS:

- A1. Water discharge.
- A2. Separate throttle arm / gearshift lever and combined throttle / gearshift remote control.
- A3. Aft.

Teaching Point 2

Time: 15 min

Describe handling characteristics.

Method: Interactive Lecture

HANDLING CHARACTERISTICS

Principles of Control

A whaler fitted with a mounted outboard motor operates the same as a shaft-driven boat. A separate rudder is used to control the boat. In order for the rudder to work, it must have a flow of water passing over its blade. With the rudder set at an angle, the flow of water is deflected and the stern of the boat swings to one side.

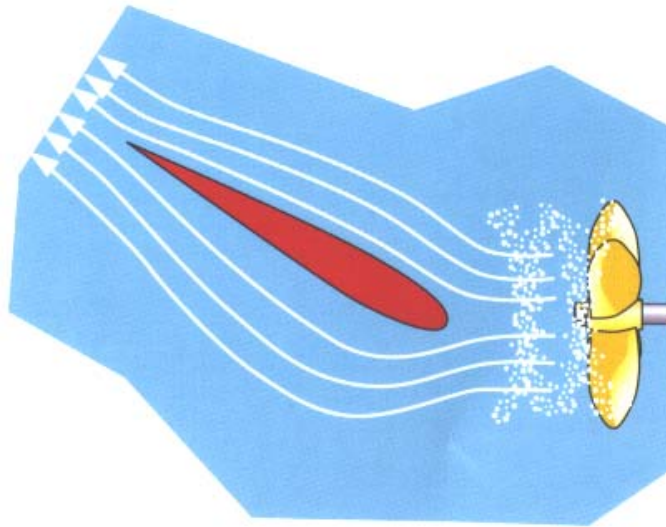


Figure 4 How a Rudder Works

Note. From Introduction to Boat Handling for Sail and Power (p. 13), by R. Gibson, 2008, London, England: The Royal Yachting Association. Copyright 2008 by The Royal Yachting Association.

Since the outboard motor is mounted in a fixed position forward of the stern, the propeller directs a flow of water forward or aft across the rudder. This makes the rudder more effective. With the rudder to one side, a quick burst of the throttle in forward gear pushes the stern sideways before the thrust starts to push the whaler forward.

Since the whaler has its propeller and rudder mounted well aft, the whaler pivots one third of the boat length aft of the bow. When in reverse, the pivot point is near the stern.

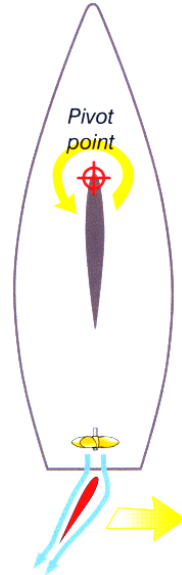


Figure 5 Pivot Point

Note. From Introduction to Boat Handling for Sail and Power (p. 13), by R. Gibson, 2008, London, England: The Royal Yachting Association. Copyright 2008 by The Royal Yachting Association.



The whaler should normally be operated under power with the keel housed in the keel box. If any keel is extended, the pivot point in forward gear moves aft.

When reversing a whaler, the propeller is directing a flow of water forward. Rudder control depends on the flow of water generated by the whaler's movement astern, therefore more sea room is needed to gain steering.

Momentum

The whaler has little grip on the water surface due to the shallow-draught hull. While turning to starboard, the whaler slides out of the turn toward port before gathering way in the direction the bow is pointing. This is caused by momentum.

Due to momentum, a whaler requires more room to make turns. Turns should be started early to avoid sliding into other objects.

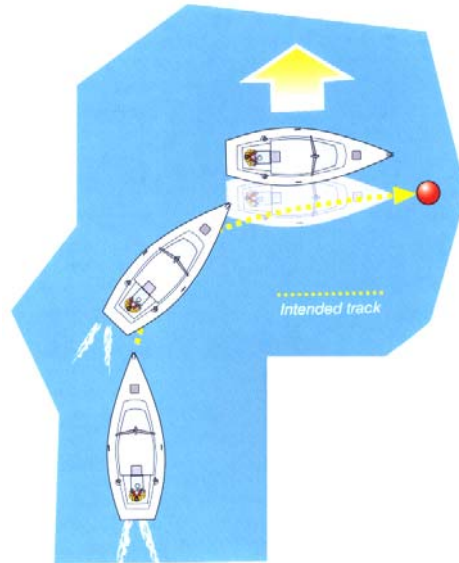


Figure 6 Example of Momentum

Note. From Introduction to Boat Handling for Sail and Power (p. 12), by R. Gibson, 2008, London, England: The Royal Yachting Association. Copyright 2008 by The Royal Yachting Association.

Effects of Wind

The length and shape of a boat's hull above the waterline can act as a sail in a strong breeze. The wind pushes the boat and propels it sideways without applying power. This is commonly referred to as the sail area of a boat.

Due to a whaler's length and shallow-draught hull, it is susceptible to the effects of wind. When manoeuvring in wind, control can be maintained by taking advantage of the effects of wind.

Effects of Tides and Currents

Awareness of tides and currents is a fundamental part of operating a whaler as their effects on how the whaler manoeuvres is considerable.

When turning into the tide or current stream, the whaler pivots around the bow (as illustrated in Figure 7). Control will be gained as the whaler turns.

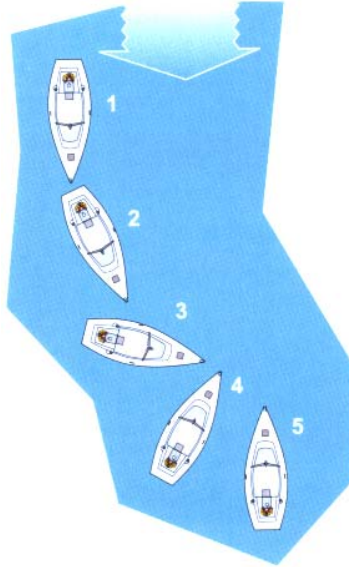


Figure 7 Turning Into the Tide or Current Stream

Note. From *Introduction to Boat Handling for Sail and Power* (p. 8), by R. Gibson, 2008, London, England: The Royal Yachting Association. Copyright 2008 by The Royal Yachting Association.

When turning away from the tide or current stream, the whaler pivots around the stern (as illustrated in Figure 8) as the current carries the whaler away.

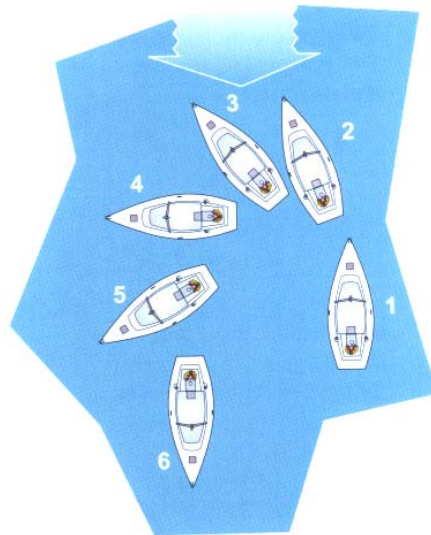


Figure 8 Turning Away From the Tide or Current Stream

Note. From *Introduction to Boat Handling for Sail and Power* (p. 8), by R. Gibson, 2008, London, England: The Royal Yachting Association. Copyright 2008 by The Royal Yachting Association.

CONFIRMATION OF TEACHING POINT 2

QUESTIONS:

- Q1. What must a rudder have for it to work?
- Q2. What effect does momentum have on a whaler in a turn?
- Q3. When turning away from the tide or current, where does the whaler pivot?

ANTICIPATED ANSWERS:

- A1. A flow of water passing over its blade.
- A2. It causes the whaler to slide toward the outside of the turn.
- A3. Stern.

Teaching Point 3**Describe slipping and coming alongside a jetty.**

Time: 10 min

Method: Interactive Lecture



The procedure for slipping a jetty in a whaler under power uses the same principle taught in SCOP Module 3.

SLIPPING A JETTY

The length and weight of a whaler make it difficult to slip a jetty without help. The bow or stern requires a large area to swing so that the whaler can slip the jetty under power. A spring line, rigged for self-slip, along with power from the motor, can be used to force the bow or stern away from the jetty. This is known as 'springing off'.



A line is rigged for self-slip when it can be handled and let go from within the whaler.

Care must be taken to ensure the line has no knots or loops that catches on cleats when it is let go.

The wind direction presents the following challenges to the whaler as it slips a jetty:

- An on-jetty wind tends to hold the whaler against the jetty, making it difficult to get the bow or stern pointed out enough to slip.
- An off-jetty wind pushes the whaler off the jetty. A boat hook may be used to help push the boat away from the jetty.

On-Jetty Wind, Bow First

The following procedure is used for slipping a jetty bow first, with an on-jetty wind (as illustrated in Figure 9):

1. Rig a spring line for self-slip from the stern of the whaler to the jetty near the bow.

2. Place an extra fender on the quarter next to the jetty.
3. Shift the motor into reverse and let go the stern line.
4. Let go the bow line when ready to slip.
5. When the fender on the quarter makes contact with the jetty, increase the throttle until the bow swings out far enough to proceed.
6. Shift the motor into neutral, slip the spring line, shift the motor into forward and proceed away from the jetty.

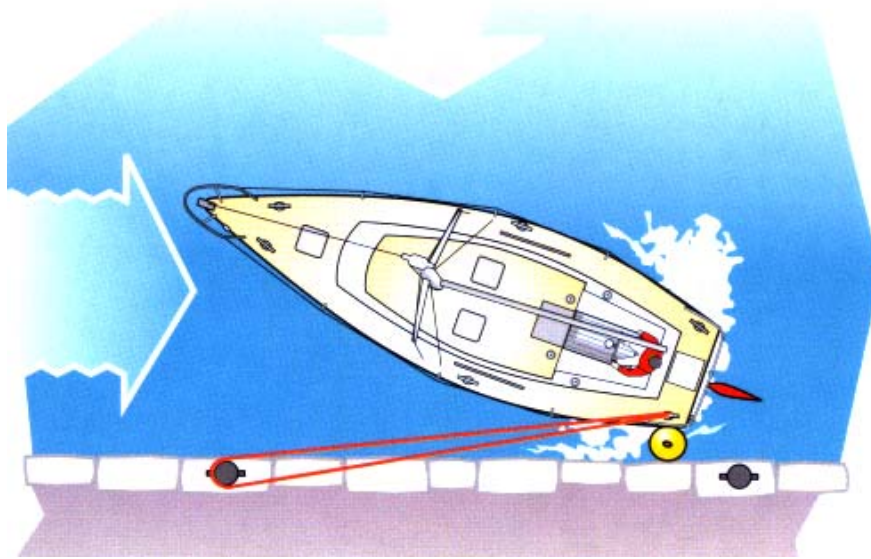


Figure 9 Slipping a Jetty, On-Jetty Wind, Bow First

Note. From *Introduction to Boat Handling for Sail and Power* (p. 43), by R. Gibson, 2008, London, England: The Royal Yachting Association. Copyright 2008 by The Royal Yachting Association.



If the bow no longer swings out, shift the engine into neutral, allow the boat to surge forward, slip the spring and apply starboard rudder. Shift the motor into forward for short bursts of forward power to push the bow into the wind.

This manoeuvre requires that all steps be performed quickly and in succession or the stern may not clear the jetty when the whaler turns.

On-Jetty Wind, Stern First

The following procedure is used for slipping a jetty stern first, with an on-jetty wind (as illustrated in Figure 10):

1. Rig a spring line for self-slip from the bow of the whaler to the jetty near midships.
2. Place an extra fender as far forward on the bow as possible.
3. Shift the motor into forward and let go all lines except the spring line.

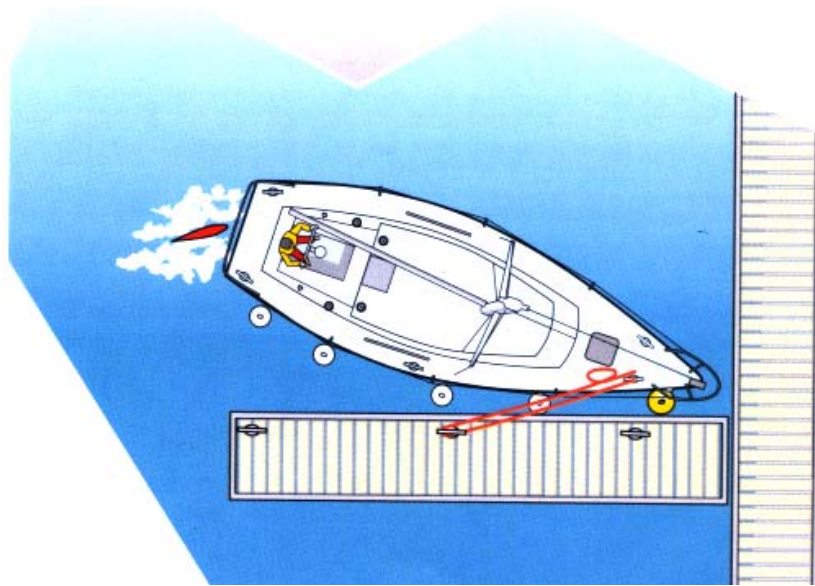


Figure 10 Slipping a Jetty, On-Jetty Wind, Stern First

Note. From *Introduction to Boat Handling for Sail and Power* (p. 42), by R. Gibson, 2008, London, England: The Royal Yachting Association. Copyright 2008 by The Royal Yachting Association.

4. Increase the throttle and steer toward the jetty until the stern has swung out far enough to proceed. If the wind is strong, continue to swing the stern out until it is directly into the wind (as illustrated in Figure 11).
5. Shift the motor into neutral, slip the spring line, shift the motor into reverse and back away from the jetty.

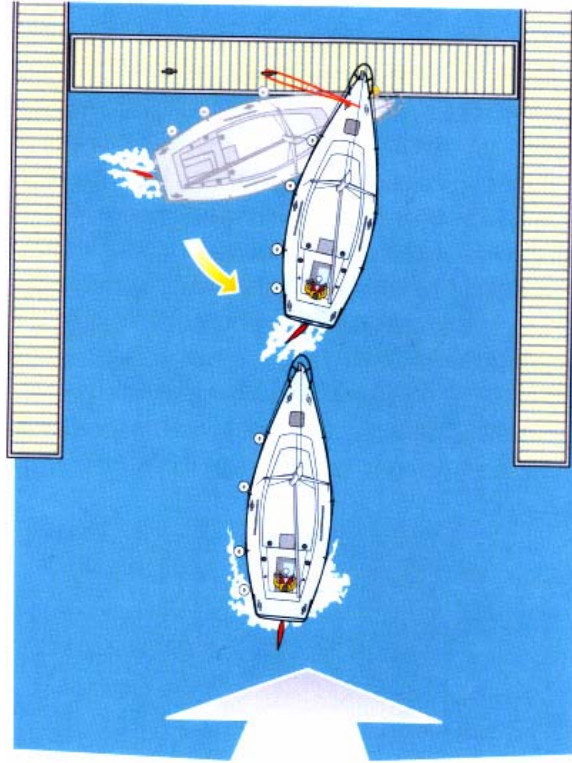


Figure 11 Slipping a Jetty, Strong On-Jetty Wind, Stern First

Note. From Introduction to Boat Handling for Sail and Power (p. 43), by R. Gibson, 2008, London, England: The Royal Yachting Association. Copyright 2008 by The Royal Yachting Association.

Off-Jetty Wind, Stern First

The following procedure is used for slipping a jetty, stern first with an off-jetty wind (as illustrated in Figure 12):

1. Rig the bow and stern lines for self-slip.
2. Ensure the fenders are in place as far forward on the bow as possible.
3. Let go the stern line and heave in on the bow line until the bow rests against the fender.
4. When the stern is clear, shift the motor into reverse and back away from the jetty.

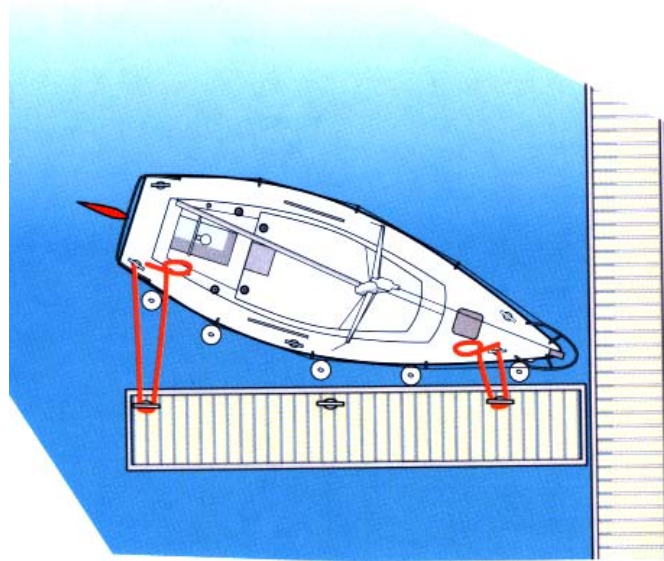


Figure 12 Slipping a Jetty, Off-Jetty Wind, Stern First

Note. From *Introduction to Boat Handling for Sail and Power* (p. 42), by R. Gibson, 2008, London, England: The Royal Yachting Association. Copyright 2008 by The Royal Yachting Association.

Off-Jetty Wind, Bow First

The following procedure is used for slipping a jetty, bow first with an off-jetty wind:

1. Rig the bow and stern lines for self-slip.
2. Ensure that fenders are in place as far aft on the stern as possible.
3. Let go the bow line and heave in on the stern line until the stern rests against the fender.
4. When the bow is clear, shift the motor into forward and pull away from the jetty.



Ensure the stern is clear of the jetty before turning the whaler.

COMING ALONGSIDE A JETTY



The procedure for coming alongside a jetty in a whaler under power is the same principle taught in SCOP Module 3.

When coming alongside a jetty, approaches should be made at slow speeds to lessen the effects of momentum. As the whaler slows, the effects of wind and current become apparent and the planned approach may have to be modified quickly. To lessen the possibility of damage to the whaler, ensure the fenders are secured in place before the approach is made.

The following procedure is used for coming alongside a jetty (as illustrated in Figure 13):

1. Secure fenders on the side of the whaler that will be alongside the jetty.

2. Approach the jetty slowly, at an angle of 30–40 degrees, aiming for a point where the stern ties up. Watch for the effects of wind and current and adjust the approach as necessary.



If the wind or current is pushing the whaler across the face of the jetty, adjust the aiming point toward the wind or current.

3. When the bow is one whaler-length away from the jetty, shift the motor into neutral.
4. Turn the rudder away from the jetty and shift the engine into reverse. The whaler turns so that the side is parallel with the jetty and the residual momentum pushes the whaler against the jetty. This is known as flaring.



If the wind is an on-jetty wind, flare the whaler early. Ensure the whaler is parallel, with no forward movement, before the wind pushes it onto the jetty.

If the wind is an off-jetty wind, delay flaring until the whaler is closer to the jetty.

5. Shift the motor into neutral.
6. Tie the bow and stern lines to the jetty.

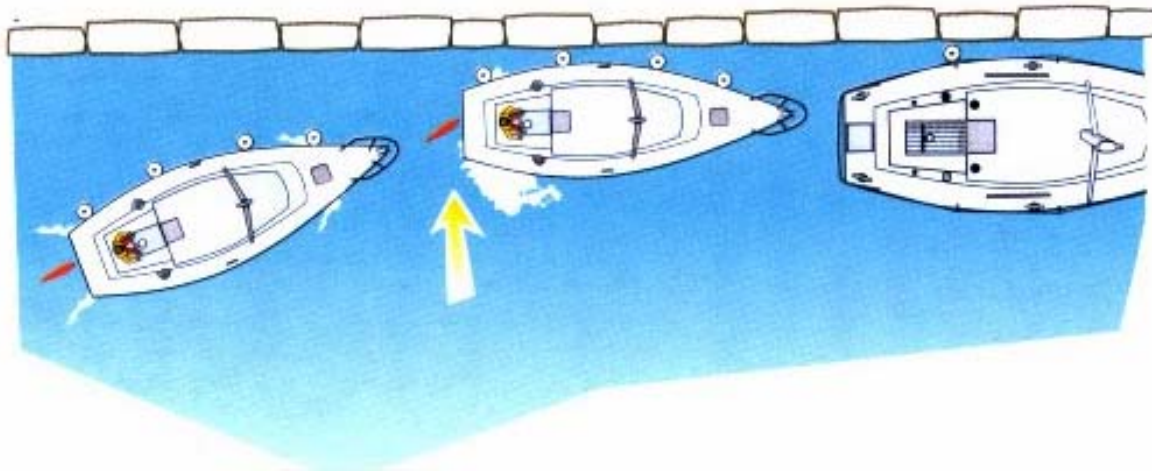


Figure 13 Coming Alongside a Jetty

Note. From *Introduction to Boat Handling for Sail and Power* (p. 18), by R. Gibson, 2008, London, England: The Royal Yachting Association. Copyright 2008 by The Royal Yachting Association.

Using a Midships Spring to Come Alongside

A strong, off-jetty wind can make it difficult for a whaler coxswain to attach the bow and stern lines. To make it easier, a spring line can be attached from midships on the whaler to a position on the jetty where the stern ties up (as illustrated in Figure 14). By shifting the motor into forward and steering slightly away from the jetty, the whaler rides on the spring and be pulled in alongside. The bow and stern lines can then be attached.

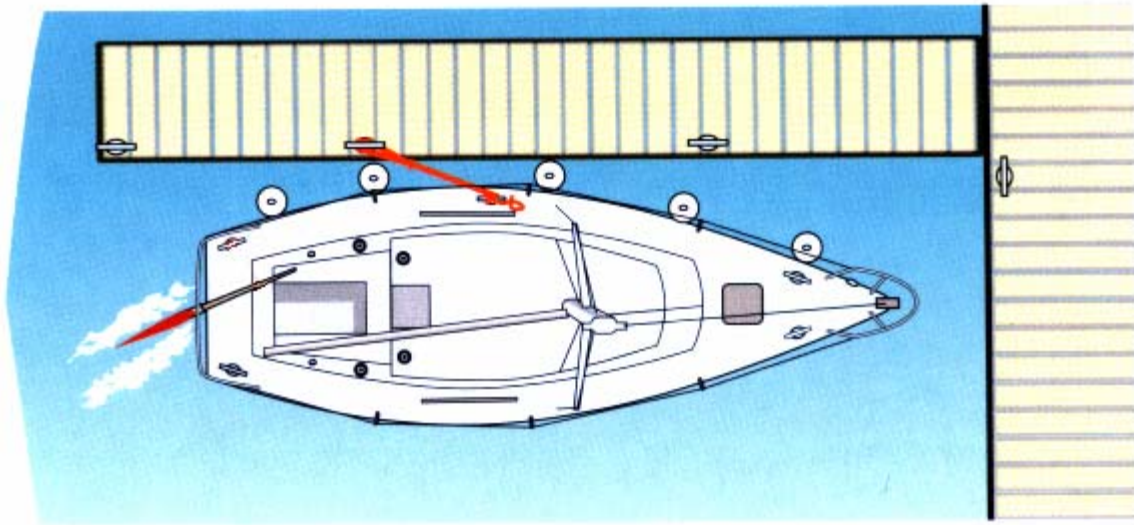


Figure 14 Midships Spring

Note. From Introduction to Boat Handling for Sail and Power (p. 30), by R. Gibson, 2008, London, England: The Royal Yachting Association. Copyright 2008 by The Royal Yachting Association.

TURNING

The turning effect of the rudder increases as the speed of the whaler increases. When turning at speed, the whaler skids through the water broadside on and outward before gathering way in the direction the bow is pointing. The resistance of the water on the hull during this skid heels the whaler outwards depending on the hull shape and loading. Avoid making drastic turns with the rudder when the whaler is loaded with personnel. Slow down before making the turn.

STOPPING

Due to its size and weight, a whaler under power requires more distance to stop. The propeller on the whaler's motor is small and does not overcome the effects of momentum quickly. A whaler coxswain must slow down early to ensure there is enough sea room to stop the whaler.

EMERGENCY MANOEUVRING

A whaler coxswain should always be aware of the situation in which the whaler is operating due to the increased time required to manoeuvre. The size, weight and loading affect how quickly a whaler moves. Because of the small size of the propeller, significant room is needed to stop the whaler.

END OF LESSON CONFIRMATION

The students' preparing to participate in operating a whaler under power will serve as the confirmation of this lesson.

CONCLUSION

HOMEWORK / READING / PRACTICE

Nil.

METHOD OF EVALUATION

This EO is assessed IAW Chapter 3.

CLOSING STATEMENT

Acting as a coxswain of a whaler under power is an important aspect of whaler operation. Being able to perform these skills will prove essential as you progress towards the Sea Boat Coxswain qualification.

INSTRUCTOR NOTES / REMARKS

Nil.

REFERENCES

BON-050-002/PT-004 Command of the Defence Council. (1995). *BR 67 Admiralty manual of seamanship*. London, England: Her Majesty's Stationary Office Publications Centre.

ISBN 97-8190510483-3 Gibson, R. (2008). *Introduction to boat handling for sail and power*. Southampton, England: The Royal Yachting Association.

SMALL CRAFT OPERATOR PROGRAM**MODULE 5 - WHALER****INSTRUCTIONAL GUIDE****SECTION 5****EO 005.05 – OPERATE A WHALER**

Total Time:	1280 min
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PREPARATION

PRE-LESSON INSTRUCTIONS

This IG supports EO 005.05 (Operate a Whaler).

Gather the required resources:

- Fully equipped whaler,
- PFD,
- Ten buoys with lines and weights,
- Four marker cones, and
- Two pylons.

Laminate the Whaler Pulling Orders located at Annex A for each whaler.

Laminate the Whaler Sailing Orders located in EO 005.03, Prepare to Operate a Whaler Under Sail for each whaler.

Laminate the activities located at Annexes B–J for each whaler.

Ensure the students have their *SCOP Reference Cards*.

Set up the activities in advance using the diagrams and materials indicated on the Annexes.



If alternative activities are used, focus on the key points outlined in the briefing located on the Annexes.

PRE-LESSON ASSIGNMENT

Nil.

APPROACH

A demonstration and performance was chosen for TP 1 as it allows the instructor to explain and demonstrate whaler pulling skills while providing an opportunity for the students to practice pulling a whaler in a controlled environment.

A practical activity was chosen for TPs 2–5 as it allows the students to practice whaler skills and act as coxswain of a whaler under supervision. This activity contributes to the development of necessary skills and knowledge required to coxswain a whaler when under oars, power, or sail in a fun and challenging setting.

INTRODUCTION

REVIEW

Nil.

OBJECTIVES

By the end of this lesson the student shall have acted as a coxswain of a whaler under oars, power and sail.

IMPORTANCE

It is important for the students to act as a coxswain of a whaler because it contributes to the student successfully attaining a Sea Boat Coxswain qualification in preparation for advanced training opportunities.

Teaching Point 1	Demonstrate and have the students respond to pulling orders.
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Time: 40 min

Method: Demonstration and Performance



Refer to the orders in the *SCOP Reference Cards*.

WHALER PULLING ORDERS

Back together. Back water, by pushing the oars / sweeps instead of pulling.

Boat your oars. Unship the oars / sweeps from the crutches, lean back, allowing the loom to pass overhead and place them fore and aft.

Bow. The bowman takes one more stroke and boats the oar / sweep, to be able to fend off the bow with the boathook or to assist in coming alongside.

Easy all. Pull less vigorously.

Eyes in the boat. Keep attention in the boat.

Give way together. Start pulling together. This order may be given to one bank of oars (eg, give way port).

Hold water. Reduce the speed or stop by holding the blades of the oars / sweeps under the water. This order may be given to one bank of oars / sweeps (eg, hold water starboard).

Lay on oars. Keeping the oars / sweeps in the crutches, slide them across the whaler and rest the grip on the gunwales. The crew may rest on the looms of the oars / sweeps.

Mind your oars. Keep the blades of the oars / sweeps clear of obstructions. This order may be given to one bank of oars / sweeps (eg, mind your oars starboard).

Oars. Cease pulling and sit upright on the thwarts with oars / sweeps feathered (blades parallel to the water).

Ship your oars. Place the oar / sweep in the crutch and slide it out to pulling distance.

Shove off. Push the whaler off the dock with the looms of the oars / sweeps. This order may be given to one bank of oars / sweeps (eg, shove off starboard).

Stand by. Lean forward with arms straight and oars / sweeps just out of the water—in a position ready for pulling.

Stroke together. Pull one stroke together. This order may be given to one bank of oars / sweeps (eg, stroke starboard).

Way enough. Take one more stroke, fleet the looms of the oars / sweeps forward, unship and boat the sweeps forward and unship the crutches.



“Fleet the looms of the sweeps forward”. The crew (with the exception of the bow because that sweep should already be boated) takes one more stroke and then leans back to pass their sweep over their head to the person behind them. When all the crew members do this at the same time the sweeps are then lined up fore and aft with the blades facing aft and each of the crew members lifts the sweep out of the crutch and lays it inside of the boat and then take out the crutch.

CONFIRMATION OF TEACHING POINT 1

QUESTIONS:

- Q1. What order is given to allow the crew to rest?
- Q2. How many strokes are taken when the order WAY ENOUGH is given?
- Q3. What order is given to push away from a jetty on the port side?

ANTICIPATED ANSWERS:

- A1. LAY ON OARS.

A2. One.

A3. SHOVE OFF PORT.

Teaching Point 2

Conduct a review of elements of SCOP Module 3.

Time:

Method: Practical Activity



Review the following SCOP Module 3 elements reinforcing the requirements for local conditions and the existing skill set of the student, to include:

- Mooring, EO 003.04
- Anchoring, EO 003.04
- Beaching, EO 003.04 and
- Securing to a jetty, EO 003.04.

Focus on the difference between a powerboat and the whaler.

This material should be incorporated into the practical activities using different methods of propulsion.

Teaching Point 3

Conduct an activity where the students will act as a member of the crew and coxswain of a whaler under oars.

Time:

Method: Practical Activity



Divide the students into groups of six per whaler. Each student acts as coxswain during each activity and the students rotate through each position every time the coxswain changes.



Leaving or returning to the jetty should be done in a whaler under power. However, it is important to learn and practice using other methods of propulsion in case of engine failure.



Stress to the students the importance of paying attention to other boats in the area. Ensure students are aware of the importance of avoiding collisions.

ACTIVITY #1- PULLING COURSE

1. Conduct the briefing for the activity.
2. Demonstrate how to manoeuvre the whaler through the course.
3. Select a student to be coxswain and have them manoeuvre the whaler through the course.
4. Conduct a debrief.
5. Have the students rotate positions.



COMMON ERRORS

It is common for inexperienced whaler coxswains to make the following errors when coming alongside a jetty:

- The approach is too fast to safely stop.
- The sweeps are boated too soon so the whaler does not reach the jetty.
- The sweeps are not boated quickly enough and they strike the jetty.

CONFIRMATION OF TEACHING POINT 3

The students' participation in the activity will serve as the confirmation of this TP.

Teaching Point 4 **Conduct activities where the students will act as a member of the crew and coxswain of a whaler under power.**

Time:

Method: Practical Activity

ACTIVITY # 2 - COMING AND GOING

1. Conduct the briefing for the activity.
2. Demonstrate how to manoeuvre the whaler through the course.
3. Select a student to be coxswain and have them manoeuvre through the course bringing the whaler alongside the jetty between the two pylons.
4. Conduct a debrief.
5. Have the students rotate positions.



COMMON ERRORS

It is common for inexperienced whaler coxswains to make the following errors when learning to slip or come alongside a jetty:

- whaler position, to include:
 - bow or stern not clear of the jetty,
 - angle of approach too steep / not steep enough due to the wind or current, and
 - incorrect aiming point for the wind or current, and
- course control, to include not enough tiller movement resulting in the whaler turning off course.

ACTIVITY #3 – TURN AND BURN

1. Conduct the briefing for the activity.
2. Demonstrate how to manoeuvre the whaler through the course.
3. Select a student to be coxswain and have them manoeuvre through the course bringing the whaler alongside the jetty between the two pylons.

4. Conduct a debrief.
5. Have the students rotate positions.



COMMON ERRORS

It is common for inexperienced whaler coxswains to make the following errors when learning to turn or stop:

- course control, to include not enough tiller movement resulting in the whaler turning off course while slowing to a stop;
- speed, to include not stopping in time due to too much momentum; and
- turning, to include not slowing down enough before the turn causing an excess of outward heel while turning.

Teaching Point 5

Conduct activities where the students will act as a member of the crew and coxswain of a whaler under sail.

Time:

Method: Practical Activity

SAILING POSITIONS

The following positions shall be assigned to the students before embarking the whaler:

Coxswain. The student responsible for steering the whaler.

Port mainsheets. The student responsible for controlling the mainsail sheets on the port side of the whaler.

Starboard mainsheets. The student responsible for controlling the mainsail sheets on the starboard side of the whaler.

Port foresheets. The student responsible for controlling the foresail sheets on the port side of the whaler.

Starboard foresheets. The student responsible for controlling the foresail sheets on the starboard side of the whaler.

Lug and brail controller. The student responsible for dipping the lug and maintaining the brails.

ACTIVITY #4 – SAFE DEPARTURE COURSE



The activities that follow have the whalers working in a group. These activities can be also be conducted independently.

1. Conduct the briefing for the activity.

2. Demonstrate how to manoeuvre the whaler through the course.
3. Select a student to be coxswain and have them manoeuvre through the course.
4. Conduct a debrief.
5. Have the students rotate positions.

ACTIVITY #5 – BOX IN AND BEGIN COURSE

1. Conduct the briefing for the activity.
2. Demonstrate how to manoeuvre the whaler through the course.
3. Select a student to be coxswain and have them manoeuvre through the course.
4. Conduct a debrief.
5. Have the students rotate positions.

ACTIVITY #6 – PICK A PLACE COURSE

1. Conduct the briefing for the activity.
2. Demonstrate how to manoeuvre the whaler through the course.
3. Select a student to be coxswain and have them manoeuvre through the course.
4. Conduct a debrief.
5. Have the students rotate positions.

ACTIVITY #7 – SAILING SLALOM COURSE

1. Conduct the briefing for the activity.
2. Demonstrate how to manoeuvre the whaler through the course.
3. Select a student to be coxswain and have them manoeuvre through the course.
4. Conduct a debrief.
5. Have the students rotate positions.

ACTIVITY #8 – TACK AND BACK COURSE

1. Conduct the briefing for the activity.
2. Demonstrate how to manoeuvre the whaler through the course.
3. Select a student to be coxswain and have them manoeuvre through the course.
4. Conduct a debrief.
5. Have the students rotate positions.

ACTIVITY #9 – WHALER SAILING COURSE



This is designed as a final activity where the students act independently in a whaler. Maintain supervision from a coach boat.

1. Conduct the briefing for the activity.
2. Demonstrate how to manoeuvre the whaler through the course.
3. Select a student to be coxswain and have them manoeuvre through the course.
4. Conduct a debrief.
5. Have the students rotate positions.

CONFIRMATION OF TEACHING POINT 5

The students' participation in the activities will serve as the confirmation of this TP.

END OF LESSON CONFIRMATION

The students' participation in the activities will serve as the confirmation of this lesson.

CONCLUSION

HOMEWORK / READING / PRACTICE

Nil.

METHOD OF EVALUATION

This EO is assessed IAW Chapter 3.

CLOSING STATEMENT

Learning how to coxswain and crew a whaler under sail, power and pull successfully will lead to obtaining the Sea Boat Coxswain qualification in preparation for advanced training opportunities.

INSTRUCTOR NOTES / REMARKS

Nil.

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WHALER PULLING ORDERS

Order	Action
BACK TOGETHER	Back water by pushing the oars / sweeps instead of pulling.
BOAT YOUR OARS	Unship the oars / sweeps from the crutches, lean back, allowing the loom to pass overhead and place them fore-and-aft.
BOW	The bowman takes one more stroke and boats the oar / sweep, to be able to fend off the bow with the boathook or to assist in coming alongside.
EASY ALL	Pull less vigorously.
EYES IN THE BOAT	Keep attention in the boat.
GIVE WAY TOGETHER	Start pulling together. This order may be given to one bank of oars (eg, give way port).
HOLD WATER	Reduce the speed or stop by holding the blades of the oars / sweeps under the water. This order may be given to one bank of oars / sweeps (eg, hold water starboard).
LAY ON OARS	Keeping the oars / sweeps in the crutches, slide them across the whaler and rest the grip on the gunwales. The crew may then rest on the looms of the oars / sweeps.
MIND YOUR OARS	Keep the blades of the oars / sweeps clear of obstructions. This order may be given to one bank of oars / sweeps (eg, mind your oars starboard).
OARS	Cease pulling. Sit upright on the thwarts with oars / sweeps feathered (parallel to the water).
SHIP YOUR OARS	Place the oar / sweep in the crutch and slide it out to pulling distance.
SHOVE OFF	Push the boat off the dock with a boathook. This order may be given to one bank of oars / sweeps (eg, shove off starboard).
STAND BY	Lean forward with arms straight and oars / sweeps just out of the water—in a position ready for pulling.
STROKE TOGETHER	Pull one stroke together. This order may be given to one bank of oars / sweeps (eg, stroke together starboard).
WAY ENOUGH	Take one more stroke, fleet the looms of the sweeps forward, unship and boat the sweeps and unship the crutches.

ACTIVITY #1 – ON-WATER PULLING COURSE

Objective: Act as the coxswain and member of the crew while manoeuvring around a course in a whaler under oars.

1. Slip the jetty and proceed under oars.
2. Proceed around Buoy A, leaving it on the port side and proceed to Buoy B.
3. Manoeuvre so the bowman can touch Buoy B and then reverse the whaler away from the buoy.
4. Turn the whaler at rest using opposite pulling orders for each side of the whaler. Rotate 360 degrees and point the whaler in the direction of Buoy C.



By applying opposite pulling commands for each side, the whaler turns in place around a pivot point underwater known as the centre of lateral resistance.

5. Proceed around Buoy C, leaving it on the starboard side and head towards the jetty.
6. Come alongside the jetty under oars between the marker cones with limited compression on the fenders.

Have the crew relay boats in the immediate area around the whaler throughout the course.

Focus on the following:

- a. **Line handling.** Give orders to let go or toss lines as required.
- b. **Whaler position.** Manoeuvre the whaler to clear all obstacles while slipping the jetty and manoeuvre the whaler to be in position to approach the jetty as determined by the wind direction.
- c. **Course control.** Perform small tiller adjustments to maintain a straight course while leaving or approaching the jetty.

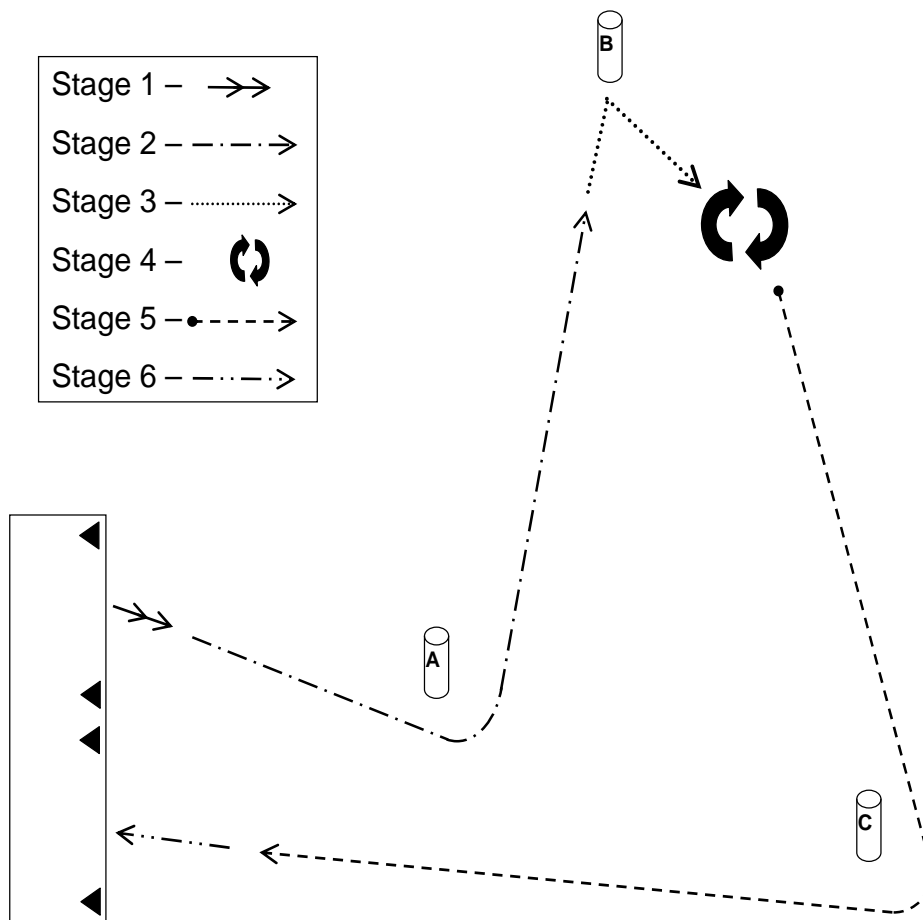


Figure B-1 On-Water Pulling Course

COMMON ERRORS

It is common for inexperienced whaler coxswains to make the following errors when coming alongside a jetty:

- The approach is too fast to safely stop.
- The sweeps are boated too soon so the whaler does not reach the jetty.
- The sweeps are not boated quickly enough and they strike the jetty.

ACTIVITY #2 – COMING AND GOING COURSE

Objective: Act as the coxswain and member of the crew while manoeuvring around a course in a whaler under power.

1. Brief the crew on what procedure is being used to slip the jetty.
2. Slip the jetty under power, at no-wake speed and manoeuvre around the course, rounding the marks to port.
3. Brief the crew on what procedure is being used to come alongside the jetty.
4. Come alongside the jetty between the two pylons.
5. Have the crew relay boats in the immediate area around the whaler throughout the course.

Focus on the following:

- a. **Line handling.** Give orders to let go or toss lines as required.
- b. **Whaler position.** Manoeuvre the whaler to clear all obstacles while slipping the jetty and manoeuvre the whaler to be in position to approach the jetty as determined by the wind direction.
- c. **Speed.** Perform throttle adjustments to maintain a constant speed.
- d. **Course control.** Perform small tiller adjustments to maintain a straight course while leaving or approaching the jetty.

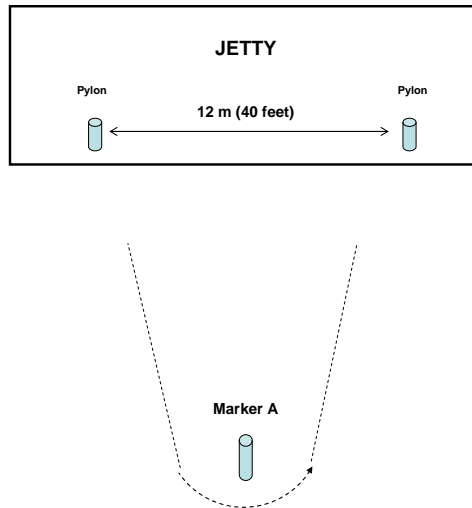


Figure C-1 Coming and Going

COMMON ERRORS

It is common for inexperienced whaler coxswains to make the following errors when learning to slip or come alongside a jetty:

- whaler position, to include:
 - bow or stern not clear of the jetty,
 - angle of approach too steep / not steep enough due to the wind or current, and
 - incorrect aiming point for the wind or current, and
- course control, to include not enough tiller movement resulting in the whaler turning off course.

ACTIVITY #3 – TURN AND BURN COURSE

Objective: Act as the coxswain and member of the crew while turning and stopping a whaler under power.

1. Manoeuvre around the triangular course under power, rounding the marks to port.
2. When Buoy C is clear, approach Buoy D and stop with the bow of the whaler almost touching it.
3. Resume manoeuvring around the course.
4. Have the crew relay boats in the immediate area around the whaler throughout the course.

Focus on the following:

- a. **Speed.** Perform throttle adjustments to maintain a constant speed and stopped in the correct position. Slow down before making turns.
- b. **Course control.** Perform small tiller adjustments to maintain a straight course while stopping at Buoy D.
- c. **Turning.** Slow down before making turns.

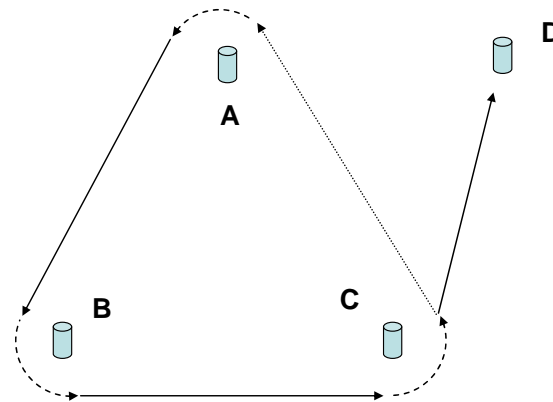


Figure D-1 Turn and Burn

COMMON ERRORS

It is common for inexperienced whaler coxswains to make the following errors when learning to turn or stop:

- course control, to include not enough tiller movement resulting in the whaler turning off course while slowing to a stop;
- speed, to include not stopping in time due to too much momentum; and
- turning, to include not slowing down enough before the turn causing an excess of outward heel while turning.

ACTIVITY #4 - SAFE DEPARTURE COURSE

Objective: Act as the coxswain and member of the crew while slipping from the jetty in a whaler under sail.

1. Slip from the jetty in the whaler under sail.
2. Proceed to the square.
3. Sit on the side opposite the mainsail as far forward as possible with the crew in the middle, unless the wind strength warrants additional weight on the high side.
4. Have the crew sit in a position to see around the foresail and on the same side as the mainsail unless the wind strength warrants additional weight on the high side of the whaler and maintain a constant lookout for other boats and obstacles.
5. Have the crew relay boats in the immediate area around the whaler throughout the course.
6. Return the whaler to the jetty.

Focus on maintaining a straight heading by placing the tiller in the middle of the whaler and holding the tiller tightly making minor tiller movements to steer toward the square.

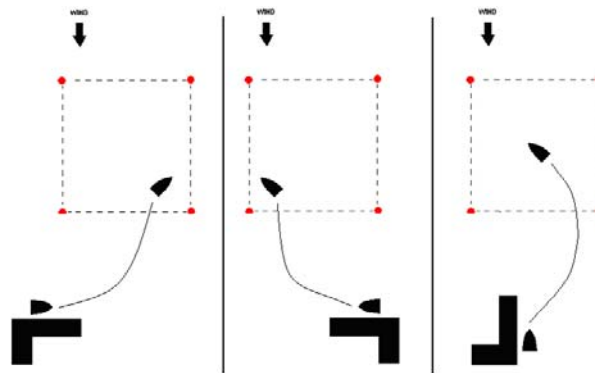


Figure E-1 Safe Departure Course

ACTIVITY #5 - BOX IN AND BEGIN COURSE

Objective: Act as the coxswain and member of the crew while sailing a whaler inside a square.

1. Start inside the square outlined by the marks.
2. While inside the square, focus on holding the tiller in the middle of the whaler.
3. Leave the square and maintain a straight course.
4. Sail the whaler back to the square.
5. Have the crew relay boats in the immediate area around the whaler throughout the course.

Focus on the following:

- a. **Course control.** Maintain a straight course by holding the tiller in the middle of the whaler.
- b. **Sail control.** Instruct the port (starboard) mainsheet handler to slowly sheet in the mainsail by passing the sheet from hand to hand as it is pulled in. As the main sail fills, have the port (starboard) mainsheet handler stop sheeting in. When the mainsail is filled, have the port (starboard) foresheet handler slowly pull in on the foresail sheet until it begins to fill.

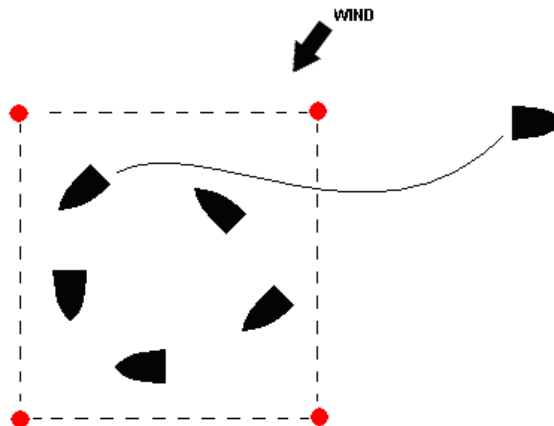


Figure F-1 Box In and Begin Course

ACTIVITY #6 - PICK A PLACE COURSE

Objective: Act as the coxswain and member of the crew while sailing in a straight line for two minutes.

1. Choose a fixed item on shore (eg, tree, rock, building etc.).
2. On "GO", sail towards the fixed item.
3. Sit on the opposite side of the mainsail and ensure the crew is maintaining a lookout for other boats, as well as communicating regarding the course heading.
4. When the whaler has reached the do-not-pass line, sail the whaler to the start and begin luffing the sails.

Focus on the following:

- a. **Course control.** Line up the bow of the whaler with the item on shore and make minor tiller movements to adjust the heading.
- b. **Sail control.** Have the crew maintain a full mainsail and foresail. Ensure sails are trimmed accordingly to prevent luffing.

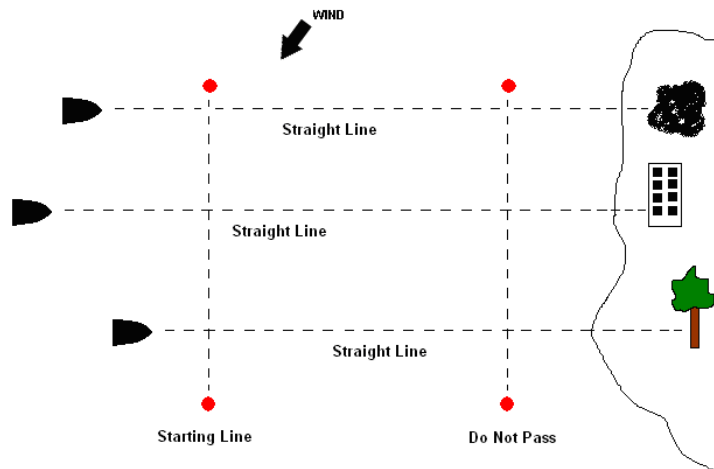


Figure G-1 Pick a Place Course

ACTIVITY #7 - SAILING SLALOM COURSE

Objective: Act as the coxswain and member of the crew in a whaler while sailing in a series of straight lines.

1. Sail out of the square, ensuring a straight course is maintained by holding the tiller in the middle of the whaler.
2. Instruct the port (starboard) mainsheet handler to slowly sheet in the mainsail by passing the sheet from hand to hand as it is pulled in. As the main sail fills, have the port (starboard) mainsheet handler stop sheeting in. When the mainsail is filled, have the port (starboard) foresheet handler slowly pull in on the foresail sheet until it begins to fill.
3. Maintain a straight heading and the whaler should begin to gain speed as the sails are trimmed correctly.
4. Sail in a series of straight lines to each of the buoys, tagging them when reached.
5. Sail the whaler back to the square.
6. Have the crew relay boats in the immediate area around the whaler throughout the course.

Focus on the following:

- a. **Course control.** Maintain a heading toward each buoy and make tiller adjustments to sail to the next buoy.
- b. **Sail Control.** Adjust sail trim according to the new heading.

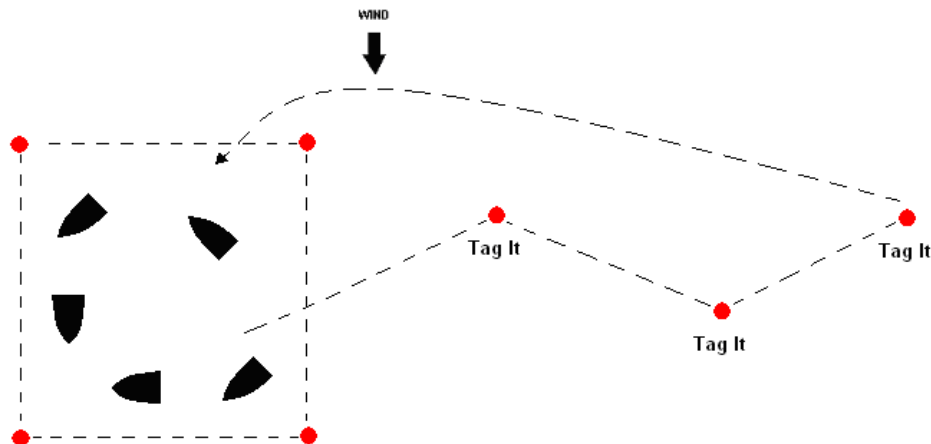


Figure H-1 Sailing Slalom Course

ACTIVITY #8 - TACK AND BACK COURSE

Objective: Act as the coxswain and a member of the crew while sailing toward the windward and leeward buoys tacking and gybing a minimum of three times before reaching each buoy.

1. Sail the whaler to the start position.
2. Sail the whaler by tacking back and forth upwind around the mark, tacking a minimum of three times before reaching the upwind mark. Switching sides as required.
3. Maintain communication with the crew while tacking. Say READY ABOUT when ready to begin pushing the tiller away. The crew shall respond with READY, at which time respond with HELM'S A LEE simultaneously pushing the tiller away.
4. Sail the whaler by sailing a downwind course between the two marks gybing a minimum of three times before reaching the leeward mark.
5. Maintain communication with the crew while gybing. Say STANDBY TO GYBE when ready to begin pulling the tiller toward yourself. The crew shall respond with READY, at which time respond with GYBE HO simultaneously pulling the tiller toward you.
6. Have the crew relay boats in the immediate area around the whaler throughout the course.

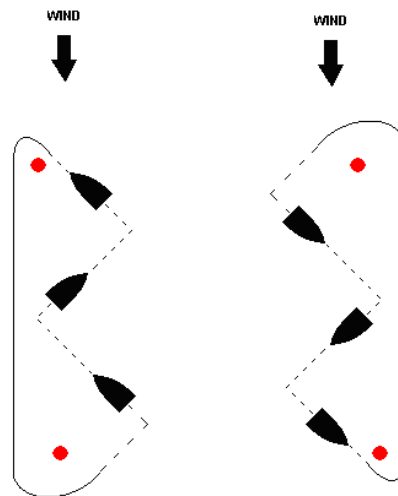


Figure I-1 Tack and Back Course

ACTIVITY #9 – WHALER SAILING COURSE

Objective: Act as the coxswain and member of the crew while sailing a whaler around a course.

Proceed around the on-water course in the order below using the correct commands.

1—Rigging for Sail

Direct the crew as they rig the whaler for sail while alongside the jetty.

2—Slipping a Jetty

Slip the jetty and proceed to Buoy A.

3—Tacking

Pass Buoy A on its starboard side then continue on a zig-zag pattern through to Buoy G, to include coming about, resetting the main / foresail, dipping the lug, gybing; and backing the foresail.

4—Stopping and Gybing

After rounding Buoy G, stop and heave to. Continue towards Buoy H executing a gybe, to include: heaving to, gybing; and dipping the lug.

5—Running

After rounding Buoy H, open sails to the goosewing position to run with the wind and sail towards Buoy I, using the bearing out spars.

6—Reaching

After rounding Buoy I, sail on a beam reach head towards Buoy J.

7—Coming Alongside

Start the approach to come alongside approximately 50 m from the jetty.

8—De-Rigging from Sail

Once the whaler is alongside, de-rig the whaler.

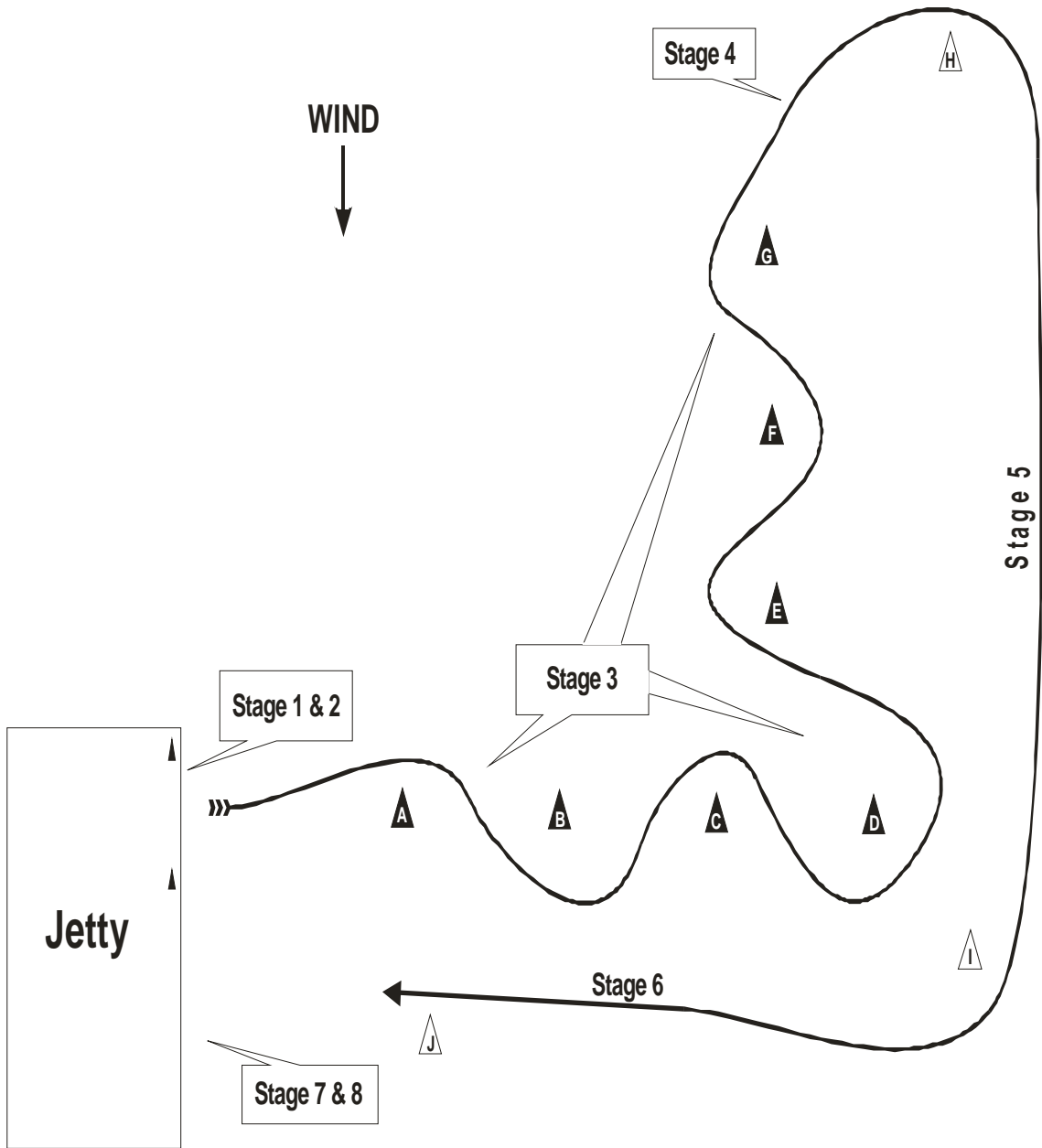


Figure J-1 Whaler Sailing Course

**ANNEX A
INSTRUCTIONAL METHODOLOGIES AND THEIR APPLICATIONS**

The various methods of instruction commonly accepted as appropriate for cadet training is outlined below.

METHOD	DEVELOPMENTAL PERIOD ONE AGES 12 – 14 EXPERIENCE-BASED	DEVELOPMENTAL PERIOD TWO AGES 15 – 16 DEVELOPMENTAL	DEVELOPMENTAL PERIOD THREE AGES 17 – 18 COMPETENCY
Case Study	Not applicable	Applicable	Applicable
Demonstration and Performance	Applicable	Applicable	Applicable
Experiential Learning	Applicable	Applicable	Applicable
Field Trip	Applicable	Applicable	Applicable
Game	Applicable	Applicable	Applicable
Group Discussion	Applicable	Applicable	Applicable
Guided Discussion	Not applicable	Not applicable	Applicable
In-class Activity	Applicable	Applicable	Applicable
Interactive Lecture	Applicable	Applicable	Applicable
Lecture	Applicable	Applicable	Applicable
On-the job Training (OJT)	Not applicable	Not applicable	Applicable
Peer Learning	Not applicable	Not applicable	Applicable
Practical Activity	Applicable	Applicable	Applicable
Role Play	Not applicable	Applicable	Applicable
Self-Study	Not applicable	Not applicable	Applicable
Simulation	Not applicable	Not applicable	Applicable
Tutorial	Not applicable	Not applicable	Applicable

**ANNEX A
INSTRUCTIONAL METHODOLOGIES AND THEIR APPLICATIONS**

General information follows on each method for its age-appropriateness, definition, application, advantages and disadvantages.

METHOD(S)	APPLICATIONS	ADVANTAGES	DISADVANTAGES
<p>DEMONSTRATION AND PERFORMANCE</p> <p>Cadets observe the instructor performing the task in a demonstration, and rehearse it under the supervision of the instructor.</p> <p>Demonstration Method</p> <p>A method of instruction where the instructor, by actually performing an operation or doing a job, shows the cadet what to do, how to do it and through explanations brings out why, where and when it is done.</p> <p>Performance Method</p> <p>A method in which the cadet is required to perform, under controlled conditions, the operations, skill or movement being taught.</p>	<p>Demonstration Method</p> <ol style="list-style-type: none"> 1. To teach hands-on operations or procedures. 2. To teach troubleshooting. 3. To illustrate principles. 4. To teach operation or functioning of equipment. 5. To set standards of workmanship. 6. To teach safety procedures. <p>Performance Method</p> <ol style="list-style-type: none"> 1. To teach hands-on operations or procedures. 2. To teach operations or functioning of equipment. 3. To teach team skills. 4. To teach safety procedures. 	<p>Demonstration Method</p> <ol style="list-style-type: none"> 1. Minimizes damage and waste. 2. Saves time. 3. Can be presented to large groups. <p>Performance Method</p> <ol style="list-style-type: none"> 1. Builds confidence. 2. Enables learning evaluation. 3. Reduces damage and waste. 4. Promotes safety. 	<p>Demonstration Method</p> <ol style="list-style-type: none"> 1. Requires careful preparation and rehearsal. 2. Requires special classroom arrangements. 3. Requires equipment and aids. <p>Performance Method</p> <ol style="list-style-type: none"> 1. Requires tools and equipment. 2. Requires large blocks of time. 3. Requires more instructors.

**ANNEX A
INSTRUCTIONAL METHODOLOGIES AND THEIR APPLICATIONS**

METHOD(S)	APPLICATIONS	ADVANTAGES	DISADVANTAGES
<p>EXPERIENTIAL LEARNING</p> <p>Learning in the cadet program is centred on experiential learning. This involves learning knowledge and skills from direct experience. People learn best from their own experiences and can then apply the knowledge and skills in new situations. The four stages of the cycle may be considered and applied to all activities within the Cadet Program, regardless of methodology chosen.</p> <p>Stage 1: Concrete Experience: Cadets have an experience and take time to identify and define what the experience is. Sample activities: direct observations, simulations, field trips, and reading.</p> <p>Stage 2: Reflective Observation: Cadets need to reflect on and examine what they saw, felt and thought while they were having the experience. Sample activities: discussion, journals / logs, and graphs.</p> <p>Stage 3: Abstract Conceptualization: Cadets work to understand and make connections from the experience to new or different situations. Sample activities: interview, discussion, model building, analogies and planning.</p> <p>Stage 4: Active Experimentation: Cadets look ahead to and plan the application of skills and knowledge acquired to future experience.</p>	<ol style="list-style-type: none"> 1. To teach practical skills. 2. To learn how to learn. 3. To teach transferable skills. 4. To teach a process or principle. 5. To teach problem solving. 	<ol style="list-style-type: none"> 1. Knowledge is shared and created by collectively by all participants. 2. Everyone is actively involved in the teaching – learning process. 3. Appeals to many learning styles. 4. Student centred. 	<ol style="list-style-type: none"> 1. Resource intensive. 2. Requires significant planning, preparation and organization prior to activity. 3. The instructor must master the subject developed. 4. Instructor needs very good pedagogical skills. 5. May not be a good process for learning details. 6. The instructor must be a good facilitator to carry out an effective reflective session in stage 2 &3 of this method.

ANNEX A
INSTRUCTIONAL METHODOLOGIES AND THEIR APPLICATIONS

METHOD(S)	APPLICATIONS	ADVANTAGES	DISADVANTAGES
<p>Sample activities include: simulation, fieldwork.</p> <p>Note: The cycle is ongoing as each learning experience builds on another.</p>			
<p>FIELD TRIP</p> <p>Theoretical knowledge is reinforced through participation in an activity in a real-life setting. Prior planning helps to ensure all pre-training and safety standards are met. Field trip activities are planned and carried out to achieve clear instructional objectives that are understood by the cadets. Examples can include trips to areas of local interest, flying / gliding, hiking or sailing.</p>	<p>To introduce / illustrate and confirm topics. To allow for familiarization activities.</p>	<p>Immerses cadets in a specific environment.</p>	<p>May require additional staff to ensure adequate supervision. Requires significant planning, preparation and organization prior to activity. May have cost implications.</p>
<p>GAME</p> <p>Games are used with one or more participants to practice skills, apply strategies and enhance teams. It is critical that the game supports learning through the provision of a challenging activity that allows for the skill practice or knowledge confirmation.</p>	<ol style="list-style-type: none"> 1. To introduce a topic. 2. To discover concepts and principles. 3. To review and confirm. 	<ol style="list-style-type: none"> 1. Fun and interesting. 2. Creates ownership. 3. Highly participative. 	<ol style="list-style-type: none"> 1. May stratify the group by creating a winner and a loser. 2. May be difficult in providing instructor feedback.
<p>GROUP DISCUSSION</p> <p>Cadets discuss issues, share knowledge, opinions and feelings about a topic in small groups to meet a specified goal. The instructor's questioning is flexible and minimal, and aims at encouraging cadets to explore their own experiences and opinions</p>	<ol style="list-style-type: none"> 1. To develop imaginative solutions to problems. 2. To stimulate thinking and interest and to secure cadet participation. 3. To emphasize main teaching points. 4. To supplement lectures and seminars. 	<ol style="list-style-type: none"> 1. Increases cadet interest. 2. Increases cadet acceptance and commitment. 3. Utilizes cadet knowledge and experience. 4. Results in more permanent learning because of the high degree of cadet participation / cognitive 	<ol style="list-style-type: none"> 1. Requires highly skilled instructors. 2. Time consuming. 3. Restricts size of group. 4. Requires selective group composition.

ANNEX A
INSTRUCTIONAL METHODOLOGIES AND THEIR APPLICATIONS

METHOD(S)	APPLICATIONS	ADVANTAGES	DISADVANTAGES
through peer interaction.	5. To determine how well cadets understand the concepts and principles. 6. To prepare cadets for application of theory or procedure. 7. To summarize, clarify points or review. 8. To prepare cadets for instruction that will follow. 9. To determine cadet progress and effectiveness of prior instruction.	involvement.	
IN-CLASS ACTIVITY In-class activities encompass a wide variety of activity-based learning opportunities that can be used to reinforce instructional topics or to introduce cadets to new experiences. In-class activities should provoke thought and stimulate interest among cadets, while maintaining relevance to the performance objectives.	1. To reinforce instructional topics. 2. To orient cadets to the subject. 3. To give direction on procedures. 4. To illustrate the application of rules, principles or concepts. 5. To review, clarify, and / or summarize.	Provokes thought and stimulates interest among cadets. Appeals to kinaesthetic learners.	1. Difficult to gauge cadet reaction. 2. Takes time to prepare.
INTERACTIVE LECTURE The instructor-driven methodology combines both lecture and interaction to meet lesson objectives. Lecture portions of the lesson are offset with relevant activities such as videos with discussion, games to confirm and completion of handouts.	1. To orient cadets to the subject. 2. To give instruction on procedures. 3. To illustrate the application of rules, principles or concepts. 4. To review, clarify, and / or summarize.	1. Saves time. 2. Permits flexibility of class size. 3. Requires less rigid space requirements. 4. Permits better control over content and sequence.	Difficult to gauge cadet reaction.
LECTURE This is a formal or semi-formal discourse in which the instructor presents a series of events, facts,	1. To orient cadets to the subject. 2. To give instruction on procedures. 3. To illustrate the	1. Proficient oral skills are required. 2. Useful for big groups. 3. Saves time because of fewer interruptions.	1. Requires preparation and a dynamic lecturer. 2. Cadets may be passive and uninvolved.

ANNEX A
INSTRUCTIONAL METHODOLOGIES AND THEIR APPLICATIONS

METHOD(S)	APPLICATIONS	ADVANTAGES	DISADVANTAGES
principles, explores a problem or explains relationships.	application of rules, principles or concepts. 4. To review, clarify, and / or summarize.		
PRACTICAL ACTIVITY Practical activities encompass a wide variety of activity-based learning opportunities that can be used to reinforce and practice instructional topics or to introduce cadets to new experiences. Practical activities should stimulate interest among cadets and encourage their participation, while maintaining relevance to the performance objectives.	1. To introduce a subject. 2. To practice skills. 3. To review and / or reinforce.	1. Encourages participation. 2. Stimulates an interest in the subject. 3. Fun and interesting. 4. Creates ownership.	1. Requires significant planning, preparation and organization. 2. May require additional staff to ensure adequate supervision.