# **Coach Boat Safety**

The National Standard for Personnel and Vessel Recovery on the Water

## **Endorsed by Sail Canada**

**BC Sailing & Tracy Terry** 

#### Acknowledgement

This Coach Boat Safety techniques manual was inspired by the need for a more sailing coach specific training course that supplements the Lifesaving Society Boat Rescue Course by focussing on powerboat specific information and practical boat handling skills.

Instructors Mark Schippers, Tine Moberg-Parker, and BC Sailing, were inspirational forces in encouraging me to write this text. My husband Tyler, who is also a small boat trainer, provided ongoing feedback. My 22 years experience as a sailing coach and the lessons learned formed the basis for selecting the practical skills. The curriculum has been tested for the past 8 years (starting in 2001) in the training of sailing coaches in British Columbia. In May 2010 the first edition of this manual was tested at the BC Sailing Learning Facilitator and Evaluator Clinic. Feedback from these attendees was then incorporated into the text.

This book is dedicated to my sons, Jacob and Joshua who will ultimately share my love for the water.

Tracy Terry CYA Master Learning Facilitator/Evaluator

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#### INTRODUCTION

This manual provides the basic framework for sailboat coaching staff to support on water training.

- Chapters 1 through 4 include basic safety information for operating a power vessel as a rescue craft when supervising sailing; a certified Sail Canada Coach Boat Safety Instructor should present this material.
- The OHP's provided in chapter 6 have been provided to assist with knowledge training. (In future edition)
- When attempting to complete this training in one-day candidates can be give copies of chapters 1-4 as a pre-course study package.
- Chapter 5 Part A & B outlines the practical evaluations that the candidates must complete. All scenarios shall be completed on the water with the use of coach/safety boats that are acceptable for sail instruction.
- Chapter 5 Part C contains the optional in-water/ swimming evaluation. Candidates should complete this evaluation in an open body of water (lake, ocean, etc) without the use of a wet suit or dry suit. This section allows candidates to practice for the Life Saving Society Boat Rescue Award.
- Chapter 5 Part D is the knowledge examination. This is a closed book test that shall be completed and handed back to the instructor.
- A candidate that is taking the Sail Canada *Coach Boat Safety certification* must successfully complete all of the critical evaluations provided in Chapter 5 (Part C optional).
- Candidates will not fail their certification if they are unsuccessful on the noncritical material/evaluations.
- Candidates that are being taught the Life Saving Society *Boat Rescue Award* (optional Chapter 7) may be required to complete the LSI Boat Rescue certification in addition to the Sail Canada CBS testing. Contact your PSA for their policy on this requirement.
- Chapter 7 may only be taught by certified Life Saving Society Instructors. To become a LSI instructor for 'Boat Rescue,' coaches shall apply directly to their local branch of the Life Saving Society.
- In order to maintain direct supervision of all persons and to maximize learning. CBS class size shall be 1 coach for every 4 candidates.

• Suggestions for improvements and or corrections to this manual should be forwarded to the head office of BC Sailing.

### **Candidate Prerequisites**

1. There is no fixed age restriction on entering this course. It should be noted that smaller and/or younger candidates may be unable to perform some of the skills required to complete the standard.

Vessel Operation Restriction Regulations include age and horsepower restrictions. It is expected that all candidate vessel operations will be carried out with a coach in the vessel being operated by the candidate.

2. Candidates should hold a Pleasure Craft Operator Card, and carry the card with them when on the water during the course. This pre-requisite is waived in the case that Pleasure Craft Operator Card certification training is combined with the Coach Boat Safety Course training. It should be noted that the complete Pleasure Craft Operator Card knowledge base is not included in this standard.

### Certification Award and Duration

1. Successful candidates will be awarded certification with an effective date of the date of successful completion of the last requirements of a particular Coach Boat Safety Course.

2. The duration of certification in CBS for coaches is three (3) years.

3. For coaches whose certification has lapsed, they may opt to take a condensed recertification course, or take the full course.

4. The course provider must provide a system for certifying and recertifying CBS Course Instructors.

## **Coach Boat Safety Techniques**

## **Registration Form**

Please Print Information Clearly

NAME					
	First	Last	Initial		
ADDRESS					
Must include	House Number & Street				
postal code					
	City				
	Postal Code				
DATE OF BIRTH					
	Day	Month	Year		
Describe Your Power boating Experience					

#### Coach Boat Safety Instructor Qualifications

This course is from BC Sailing and has been endorsed by the Sail Canada 'Training and Certification Committee' (TTC) to meet the swimming prerequisite for Sail Canada Instructors and Coaches. The polices above are set by BC Sailing and not Sail Canada.

At the present time only LF's are being trained to teach this course as some of the situations and drills are very complex. The individual must also be a paid and registered coach with Sail Canada (this ensures that they have the first aid training required to do assessments). It also ensures that they have a high level of situational awareness needed to teach power boat operations safely.

- A. Prerequisites:
- Learning Facilitator (LF) Certification
- Emergency First Aid
- PCOC
- Current Sail Canada registration
- B. Certification:

<u>Step One:</u> Successful completion of the training course through mentorship or a certification clinic.

<u>Step Two:</u> Teach one Rookie Coach Boat Safety (CBS) course with another Coach Boat Safety instructor to become fully certified. Ideally the CBS instructor that is doing the evaluations on the new CBS instructor is a senior instructor. Due to the program being in its infancy in many provinces this is not practical in the first phase of development and in this case, two new instructors are permitted to complete the rookie clinic together.

C. Re-certification/maintaining current status:

The CBS instructor qualification expires after three years if the individual is not active. If however the person teaches 3 courses in the time period, they remain current.

Individuals that do not teach 3 courses in a three year period must teach a Coach Boat Safety (CBS) course with another Coach Boat Safety instructor to renew their certification.

#### Master Trainer Certification:

Once a CBS instructor has been current for the 3 years of has taught more than 5 clinics they would qualify to evaluate new CBS Instructors.

#### Instructor Registration Number:

CBS instructor registration number shall be the same as the coach's Sail Canada CANSail number.

-	Co Master Lo	oach earn	Boa ing	at Safe Facilit	ty Award ator Applicatio	n
Candida	ite Name					
Add	lress					
City						
Postal	l Code					
CAN	Sail #					
Date o	of Birth					
Learning Facilitator (LF) Certification						
Emergency F	First Aid					
PCOC # & P	rovider					
Current Sail Canada						
Once a CBS they would q	instructor has ualify to evalue	been c ate new	urren v CBS	t for 3 yea Instructo	ers or has taught more th rs.	an 5 clinics
Course	Locati	on		PSA	Co-Facilitator (optional)	Date
#1 CBS						
#2 CBS						
#3 CBS						
#4 CBS						
#5 CBS						
#6 CBS						

Validation

I certify that the CBS course listed above were taught as indicated and that I upheld the standards of the Coach Boat Safety award including my powers of certification and limitations.

(Instructor Candidate Signatur	e)	(Date)		
BC Sailing Registration: Office Use o	nly			
Date Application Received BC Sailing Office	Date Certificate Issued BC Sailing Office	Date Update sent to Sail Canada BC Sailing Staff		

(BC Signature)

(Date)

#### The following is an example Course Schedule for CBS

Time	Activity	Materials	Remarks
Evening Sessi	ion (4 hours)		-
4:00 PM To 8:00 PM	Boat Rescue Theory Review	Registration forms OHP CC Manual Evaluation form	
4:00 PM to 4:15 PM	<i>Registration</i> Introductions and Candidates fill out registration form.	Registration form	CC should divide the candidates into small groups for on water activities using the information provided on the registration form.
4:15 PM to 7:45 PM	OHP's Review	OHP's	
7:45 PM to 8:00 PM	<i>Wrap-Up</i> Review the schedule for tomorrow and answer any questions. Candidates shall be reminded that there is a theory test in the AM.		
DAY 2	Full Day		
8:30 AM to 9:30 AM	Theory Test Test is closed book.	Theory Test	When candidates finish test they should help prepare the power boats. Candidates to ensure all DOT regulations are onboard.
As they depart test area.	Prepare Power Boats and Training Recourses Candidates are assigned their on water groups and their first station (situation). Ask all pers to go and get their powerboat ready including DOT equipment and all resources required in their situation. When they are completed they must have their vessel checked off by a CC.	Station evaluation sheets Registration sheets divided into groups (max 4 per groups) DOT equipment Sail Boat Heaving line BOB (person Overboard)	
At first group CC to explain the following rules of operation	<ul> <li>No standing while underway</li> <li>All PFD's done up</li> <li>Throttle Controls</li> <li>Wake Zone</li> <li>Dead Slow</li> <li>Rules of the Road</li> <li>Changing Gears (stop in neutral)</li> <li>No Hot Dogging</li> </ul> Allow for question on situation sheet or general operations.		

#### **Coach Boat Safety Techniques Lesson Plan: Certification Course**

Time	Activity	Materials	Remarks
9:35 AM	Stations		Be on time! (1/2 hour per
to	Stations completed prior to lunch are:		station transfer)
12:35 AM	Person Overboard - CC Eval.		
	Non-breatning Person Rescue & Fransier – CC Eval. Prepare for Departure – CC Eval.		
	Tow a Sailboat - CC Eval.		
	Rescue a Sailboat – CC Eval		
	Heave a Line – CC Eval		
12:00 AM	Lunch		
to			
12:30 PM			
12:30 PM	Candidates to change for in water activities.	Extra clothes for	
to		clothing removal	
12:45 PM		r extra r r D caen	
12:45 PM	On Water Stations		Be on time! (15 minutes
to	Stations completed prior to in-water testing		per station transfer)
1:30 PM	are:		
	Set a Mark – CC Eval.		
	Anchor a Coach Boat – CC Eval. Stopping distance & Docking – CC Eval.		
	Coach boat positioning – CC Eval.		
1:30 PM	Swim Test	Swim Test -	** Removals are to be tested during the swim test.
to	Perform open water swim test as outlined in	CC Eval.	
2:30 PM	Evaluation Part B Station 9 (can also do		Carry a Victim
	optional Chapter 5 Part C Stations #1-5)		HELP and Huddle
	In-Water – CC Eval.		Tread Water
	Drill Instructor –		
	Condidate Sofety (responder) -		
2.30 PM	Claan Un		Appoint local candidates
2.30 I M	Candidates to change and put hoats and	Final Evaluation sheet	to supervise clean up
3.00 PM	equipment away while the CC fill out the		to supervise clean up.
5.001101	evaluations		
3:00 PM	Interviews		
to	Candidates who are successful are given		
3:30 PM	their evaluation as a group. Candidate who		
	are not successful are given a private		
	interview.		
3:30 PM	Candidate Wrap Up		
to	Questions		
3:40 PM	□ Final Clean up		
	Departure		
3:40 PM	CC Wrap Up		
to	□ Final Clean up		
4:00 PM	Check out with Club and Departure		

# **Chapter 1**

#### Chapter 1: Preparation

Planning for an on water emergency is a critical part of a coach's responsibility in managing a safe environment. An Emergency Action plan that is well rehearsed can save valuable time and prevent confusion in the event of unfortunate circumstances. Emergency Action Plans contain:

- □ Location of phones/radios
- □ Listing of emergency numbers/channels
- □ Location of medical profiles for each sailor in the coach's care
- □ Location of first-aid kits (land & water)
- Advance call and control persons are identified
- **D** Roles and contact information are included
- □ Clear directions to the training venue
- □ List of emergency signals

Understand your limitations and the limitations of your craft.

One of the hardest concepts any rescuer needs to come to terms with is their ability to resist the urge to assist when they or their craft are being pushed past their safe operating limits. Prevention is often the key to avoiding this disturbing dilemma. For example: if your safety boat cannot maintain speed with the sailboats that you are monitoring, you should not send the sailboats out.

Accepting and abiding by the Sail Canada limitations is also essential to good planning. Sail Canada recommends specific supervision ratios of 1 coach boat to every 7 singlehanded sailboats (1:7) and one coach boat to every 10 sailors (1:10) for boats with two or more sailors. Modifying this ratio based on the skill level and the weather conditions is an accepted practice, however it is a generally accepted principle that the smaller the ratio the better the level of supervision. Sail Canada further recommends that coach boats are manned by Sail Canada certified and insured instructors.

**Task:** Candidates are to provide accurate information regarding emergency services in their club/local area.

Sailing coaches are required to maintain a valid emergency first aid certificate as the minimum standard of emergency response preparation. Sailing coaches should be appropriately dressed for the weather and should carry at minimum water and sunscreen as part of their personal kit. Setting an example by wearing a hat, sunglasses and PFD properly fastened at all times is a part of coach's professional responsibilities.

#### Chapter 1: Due diligence and standard of care

Managing Risk in sailing situations is critical. As a sailing coach/instructor your training dictates that you apply a 'standard of care' in keeping with your training. In the event of an accident investigation your 'due diligence' will come into question. Due diligence is a term used for a number of concepts involving either the performance of an investigation of the sailing school (a business) or the coach/rescuer (a person), or the performance of an act with a certain 'standard of care.'

"In tort law, the standard of care is the degree of prudence and caution required of an individual who is under a duty of care. A breach of the standard is necessary for a successful action in negligence. The requirements of the standard are closely dependent on circumstances. Whether the standard of care has been breached is determined by the trier of fact, and is usually phrased in terms of the reasonable person. It was famously described in Vaughn v. Menlove (1837) as whether the individual "proceed[ed] with such reasonable caution as a prudent man would have exercised under such circumstances".

"Due diligence in civil litigation (also known as due care) is the effort made by an ordinarily prudent or reasonable party to avoid harm to another party. Failure to make this effort may be considered negligence. This is conceptually distinct from investigative due diligence, involving a general obligation to meet a standard of behaviour. Quite often a contract will specify that a party is required to provide due diligence. In criminal law, due diligence is the only available defence to a crime that is one of strict liability (i.e. a crime that only requires an actus reus and no mens rea). Once the criminal offense is proven, the defendant must prove on the balance of probabilities that they did everything possible to prevent the act from happening. It is not enough that they took the normal standard of care in their industry - they must show that they took every reasonable precaution."

(http://en.wikipedia.org/wiki/Due\_diligence)

What you take with you in the coach boat and how you respond to your sailors will depend greatly on the type of vessels you are coaching as well as your competency level and the abilities of your sailors. Being prepared is your number one defence!

**Knowledge:** Candidates to answer knowledge questions on due diligence.

#### Chapter 1: Equipment

Your safety vessel (power boat) is the most important tool that a rescuer has in the event of an emergency. According to the law in Canada, "small vessel regulations" vessels must contain basic emergency equipment. The Canadian Coast Guard produces a "Safe boating guide" which is available for free from your local CCG office, which outlines all of the required equipment for your vessel. Generally speaking, safety boats tend to fall in the under 6M range and must have the following safe boating equipment onboard

- 1 lifejacket or PFD for each person onboard
- 1 reboarding device
- 1 buoyant heaving line of at least 15m in length
- 1 watertight flashlight OR 3 flares of type A, B or C
- 1 manual propelling device OR 1 anchor and at least 15m of rope/chain/cable
- 1 bailer or manual bilge pump
- 1 sound-signalling device
- Navigation lights (if operating after sunset)

- 1 5BC fire extinguisher (if equipped with an inboard engine, a fixed fuel tank, or fuelburning appliance)

(reference: http://www.tc.gc.ca/media/documents/marinesafety/TP-511e.pdf):

Coach/safety boats should also carry:

A first aid kit Heaving line or throwing device Blanket Emergency Action Plan – laminated Important medical information for students/participants Parbuckle lines Communication system (cell phone, VHF, FRS) Wire Cutters Appropriate knife Properly installed "kill cord" (engine emergency shut off line) Extra Lifejacket Small jury-rig kit with basic tools (Such as a Gerber tool, shackle, small bits of strong line, duct tape, extra plug...etc) Extra bailer Sufficient fuel Tow Line Anchor with line Fire extinguisher Safety/Emergency flags

**Task:** When available, coach should identify coach boat equipment by locating the safety equipment required by law and the additional equipment in a coach boat at your local facility. If vessel survey is unavailable coaches should be divided into two groups for brainstorming exercise. Group A - Brainstorm the equipment required by law in a coach boat. Group B- Brainstorm the equipment coaches should carry, but are not required by law.

#### Chapter 1: Maintenance

Coaches are often responsible for maintaining the coach boat. This task should not be taken lightly. Pre departure checks are a critical part of maintaining a safe environment for sailors. Coach/safety boat check lists can be used to prevent mistakes. This need only be a laminated list of all of the equipment that a coach should have onboard and its location. Coaches should be in the habit of checking their boat prior to departing to make sure that the critical items are onboard, in good condition and stowed correctly.

In addition coaches should encourage the club to conduct regular maintenance and inspections on the coach boats (including engines). Maintenance logs are a trustworthy way to prove the club has shown due diligence with respect to ensuring the reliability of the coach boat and safety equipment.

Engine Inspection Throttle controls are operating smoothly Propeller clear (intact shear pin) Cooling water discharging (intake is clear) Oil level (two stroke added directly to the gas, four stroke has separate oil chamber) Fuel level Condition of the fuel line Condition of the fuel line Condition of the battery cables Condition of the kill cord Attachment of a safety chain or lanyard from the engine to the boat (when engine is screwed to the transom with clamps)

Boat Inspection Safety equipment onboard the vessel and stowed correctly Correct any tube inflation problems (inflatable boats) Bail any water in the hull

#### **Crew Preparation**

Brief the crew on the importance of keeping hands and feet inboard. Point out any hazards in the boat and where all of the safety equipment is stowed. Review safety and

communication procedures including what channels to use on VHF. Show the crew how the engine is started and stopped. Specify how the crew should act during docking and undocking procedures.

**Knowledge:** Candidates to answer knowledge questions on maintenance.

**Task:** Candidates are to pour a small amount of gas from a jerry can into a coach boat tank, using correct oil mixture for the type of vessel.

Chapter 1: Basic Engine and Controls

The basic set up for outboard engines involves a propeller at the base of the engine leg that is controlled by the operator through the steering cables and steering wheel, the combined throttle gear shift leaver or the twist–grip throttle control, the trim and tilt controls and an emergency engine shut off device called a kill switch.



Fuel Tank

Reference: *Basic Powerboating Skills* (p. 24), by D. Neff, 1945, Gloucester, ON: Copyright 1990 by Canadian Yachting Association.



Reference: *Powerboating Handbook* (p. 16), by P. Glatzel, 2006, Southampton, England: Copyright 2006 by The Royal Yachting Association.



Reference: *Basic Powerboating Skills* (p. 24), by D. Neff, 1945, Gloucester, ON: Copyright 1990 by Canadian Yachting Association.



Reference: *Start Powerboating* (p. 11), by J. Mendez, 2006, Southampton, England: Copyright 2006 by The Royal Yachting Association.

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<b>Knowledge:</b> Candidates to answer knowledge questions on Basic Engine Controls.	1
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Chapter 1: Local Knowledge

Every area has both geographical and navigational hazards that the coach should be aware of. Rocks, sandbars, sunken hazards, deadheads, congested areas, etc. Review these hazards with your sailors/racers. By obtaining a chart of your local area you can easily review and identify any navigational systems and aids in your area of operation.

Obtain a weather report prior to conducting any on water activities. When possible listen for weather advisories or have a designated person on shore (in the club office) ready to dispatch additional support should an unforecasted storm catch you off guard. VHF weather advisory channel is WX Band.

Often it is helpful to train local support boats in safe towing and recovery procedures prior to an unforeseen incident. This can save unnecessary equipment loss or damage when vessels coming to your aid are unfamiliar with sailboat dynamics.

**Knowledge:** Candidates to answer knowledge questions on Local Knowledge (weather checks).

Chapter 1: The Collision Regulations

The Canadian Collision Regulations govern safe operations (rules of the road) at sea. Knowing who has the right away in specific situations is will prevent accidents. However, it is also critical to keep a vigilant look out and operate your vessel at a safe speed. Operators are responsible for damage (environmental, equipment and personal) caused by their wake. Often there are "no wake zones" coming in and out of harbours and marines.

## **Chapter 2**

#### Chapter 2: Getting Started

All vessels must be started in neutral with the kill switch in the on position (often the kill cord must be attached to the switch). If the throttle is not in neutral you should pull back or push forward on the throttle until you hear it click into neutral. Most often this is when the throttle is in the centre or vertical position. To engage the engine and move forward the operator must push up on the neutral release button on the bottom of the throttle handle and push the lever forward (towards the bow). To accelerate (add speed) the operator continues to push the throttle handle forward. To decelerate the operator pushes the handle backward (toward the stern) and to put the boat in reverse the operator must pull the throttle back into neutral pause for a second and then push up on the neutral release button and pull the throttle back past neutral and into reverse. To accelerate in reverse the operator continues to pull the throttle back.

#### Tilt

The tilt function of the engine controls the engine's trim. Most often hydraulic tilt functions are found on engines above 25 HP, however even engines without hydraulic tilt have a trim/tilt control bracket and pin to allow adjustment of the engine angle (tilt). When making adjustments the engine is lifted out of the water at an increasingly horizontal motion until the propeller can be completely lifted above the water's surface. Operators will use trim most often when they are travelling at speed in order to maximise the boat's performance (bring the boat onto a plane and stabilise the porpoising motion of the boat when it is on a plane). A boat with the engine trimmed down will bring the bow down. With too much downward trim the engine will be lifted and the propeller will be close to the water's surface. This can cause 'ventilation' and a sudden stopping or loss of power from the engine followed by a burst of power as the propeller grabs and the boat accelerates. A boat with the engine trimmed up will bring the bow up. The optimum position for the outboard engine is level to the water.



Reference: http://www.sailboatstogo.com/assets/images/IMG 0005.JPG

**Knowledge**: Candidates to answer knowledge questions on Basic boating knowledge 'getting started'.

#### Chapter 2: Basic Power Boating Skills

#### Starting the Engine

- 1. Complete the engine inspection.
- 2. Connect the gasoline line to the engine with the bulb arrow pointing towards the engine. If using a portable fuel tank open the air vent.
- 3. Squeeze the primer bulb until firm.
- 4. Check that the engine is in neutral, that the kill cord is attached in the starting position, and that the engine is centred.
- 5. Check that there is nothing around the propeller area and that the engine is locked in the down position.
- 6. Pull the choke on the engine or lift the choke lever on the control box.
- 7. Pull the starter cord up to five times (make sure you take the slack out of the cord prior to pulling on it so that you are not jerking on the cord or letting it snap back) or turn the key to the start position and back to off in attempts to start the engine. If engine does not start wait for a minute before making further attempts while conducting simple trouble shooting (re-adjust the kill cord, the throttle to ensure that it is in neutral, adjust the choke to the halfway position and check to see that the bulb is still hard).
- 8. If the engine starts, lower the throttle adjustment to idle as the engine warms and make sure that you check to see that there is water discharging (this cools the engine).

NOTE: A warm engine will not need choke or primer bulb pumps to start. If you smell gasoline and the engine is not started wait for a few minutes prior to attempting to start the engine again.

**Task:** Start local club boats under the supervision of the head coach or dock manager. Make sure that you get a short briefing on any unique quirks with respect to boat starting and handling characteristics before you use any boat that you are unfamiliar with.

#### Chapter 2: Manoeuvring in a confined space

This can include leaving and returning to the docking area, driving in the moorage bay or even being on course with a group of sailors sailing in the direct vicinity of the power boat. Regardless of the circumstance a confined area demands a higher level of concentration and care on behalf of the powerboat operator. In most situations the critical factor is reducing the use of speed and accounting for the wind. At low speeds wind becomes an asset or hindrance to the success of a manoeuvre. The wind will push the bow away from the wind direction and when at idle can even cause the bow to turn completely downwind and the stern to face the wind. When turning into the wind your speed will decrease and your turning arc will also decrease. When turning away from the wind your speed will increase and your turning arc will also increase. With this in mind the operator, who is operating in a confined area must try to use the minimum speed possible to manoeuvre. This speed is often accomplished by putting the throttle in forward and then neutral and back to forward and neutral repeatedly. This process produces forward momentum needed for steerage, but will limit the boat's speed. The operator then only needs to focus on using the steering wheel or tiller drive to steer the boat. Boats with a steering wheel you turn the wheel in the direction that you want the boat to go (same as a car). Boats with a tiller you turn the tiller in the opposite direction that you want the boat to turn.

#### Simple Docking

- 1. Be sure to brief the crew on what is about to happen and what they are supposed to do to assist with the docking.
- 2. Approach the dock at a 45 degree angle at low speed.
- 3. When approximately 1 to  $\frac{1}{2}$  a boat length from the dock turn the boat so that it comes parallel to the dock just slightly away from the dock.
- 4. Turn the wheel toward the dock or pull tiller away from the dock and put the boat in reverse. This will cause the transom of the boat to swing toward the dock.
- 5. Use wind and current to your advantage when docking.

#### Simple departure - back away and depart

- 1. Turn the wheel away from the dock or turn tiller toward the dock (rotates propeller away from the dock). Keep the turn small.
- 2. Put the boat in reverse the transom will move away from the dock and the bow will move toward the dock.
- 3. Clear the dock and then turn the wheel or tiller in the opposite direction until the boat is parallel to the dock
- 4. Shift the boat into neutral for a few seconds and centre the wheel/tiller
- 5. Shift the boat into forward and steer away from the dock.

Other standard departures are a drive away departure where the boat is pushed away from the dock carefully to make sure that hands and feet are not injured and then driven away from the dock or the boat is backed out of a slip and then driving away from the slip.

**Task:** Practice manoeuvring in docking area to dock and launch using the minimum amount of speed necessary to maintain control. Practice docking in a slip, docking on the right side and left.

Chapter 2: Stopping Distance

A very important point to remember is that a vessel will not stop travelling forward until it has decelerated. In other words there is no braking system on a vessel. Using the vessel's reverse as a break to control the boat's stopping distance is a bad practice as it can harm the engine gears and can also lead to more opportunities for miscalculation and collisions. If you need to stop the boat suddenly from high speed reduce speed, turn the boat 90 degrees and shift the boat into neutral. This manoeuvre will stop the boat's wake from going over the transom and swamping the boat. However, reducing speed in order to stop without using reverse is a skill that should be practised regularly. **Task:** Practice stopping distance without using reverse by directing coaches to plan and execute and approach to a mark whereby the vessel stops travelling forward at the mark. This should be done first with a low speed approach and then with a moderate speed approach. Coaches should be asked to comment on the distance that it takes to stop (distance travelled from the point the boat is put in neutral to the point it has come to a full stop). Instructor can point out that this distance will also vary based on weather conditions and the vessel displacement or hull characteristics. As a general rule calm waters and flat bottom vessels will travel father than a deep V vessel or a vessel in heavy sea conditions.

#### Chapter 2: Speed When Driving

All boats traditionally used as safety/coach boats by sailing instructors will go through a three phase process as their speed increases and the boat gets underway.

The first phase is the displacement speed. At this speed the boat remains relatively level with the water. It is easy to steer and the boat produces a very shallow wake. This speed is consequently a good speed for operating in close proximity to sailors.

The second phase is the transition speed. This can be one of the more dangerous speeds with respect to visibility. The transom of the boat digs in to the water and the bow of the boat will rise, thus all operators must ensure that they take a moment to look for any hazards or obstructions before they increase speed and move from the displacement (lower speed) to the transition speed. The boat's engine is working hard at this speed. The boat is slow to turn and produces a large wake that could swamp nearby boats or damage shorelines. With restricted visibility, poor manoeuvring and a large wake; the transition speed is not an efficient speed for Coach/Safety boats.

The third phase is the planing speed. At planing speed the boat rides on top of the water. Coach/Safety boat operators often use this speed when they are transiting from one area to the next. If the boat has trim tabs they can be adjusted to get level trim. At the planing speed the boat has accelerated significantly, the wake will have decreased and the boat now has a very sensitive helm (quick response to even sudden turning of the wheel or tiller). Maintaining the boat's trim is critical at planning speed otherwise the boat could become unstable (chine hop or porpoise).

Once a coach/safety boat begins to reduce speed the boat will move back through the transition speed to the displacement speed. Operators need to be particularly cautious that they start to reduce speed well in advance of their anticipated stopping point. This will ensure that the boat's wake has an opportunity to settle down and that the operator does not need to use reverse thrust to prevent a collision.

**Task:** Candidates should demonstrate the ability to maintain a good speed when travelling from one activity to another. Candidates should be prompted to consider their wake as well as stopping distance (without the use of reverse) on all approaches. Use of excessive speed or show-boating should be corrected immediately.

#### Chapter 2: Coach Boat Position

Learning how to position a coach boat alongside a sailboat involves many considerations. You have to be so that you can be seen and heard TASK: Situation: Coaches shall practice operating a coach boat while following a sailboat upwind and downwind. The sailboat may tack or gybe at any time without warning to the coach boat operator.

**Evaluation Standard:** 

- Position the coach boat off the leeward transom quarter of the sailboat when the sailboat is travelling upwind.
- Position the coach boat off the windward transom quarter when the sailboat is travelling downwind.
- Accurately maintain the correct position while avoiding collisions
- Be in close enough proximity to the sailboat to be easily heard and understood by the sailor and face to face whenever practical.
  - **Task:** Coaches shall practice operating a coach boat while following a sailboat upwind and downwind. The sailboat may tack or gybe at any time without warning to the coach boat operator. Candidates should position the coach boat in a safe and effective manner. Accurately maintain the correct position while avoiding collisions and be in close enough proximity to the sailboat to be easily heard and understood by the sailor and face to face whenever practical.

#### Chapter 2: Setting a mark

Setting marks, weather it be for racing or for sailing school courses, is something that most coaches will need to be proficient at. It is always important that the mark be set in the correct location and that it not shift. Use the anchoring process in order to set your mark. First you need to determine: The depth of the water and the sea state, how long the mark needs to be set for, and what type of bottom the anchor will rest on. In addition you need to determine the size and construction of your mark. This information will help you to select the correct length of line, mark and anchor. Generally larger marks need to be secured with more scope than smaller marks. In the sailing school environment often the marks are inflatable toys (children's bouncing balls) or very simple and small floating objects. The anchors used in sailing schools are also simplified, such as weighted buckets (full of cement) or fish weights. On racecourses the most common type of anchor selected is the Danforth. The race committee chairman will instruct you on where the mark is to be positioned, so you can focus on setting the mark. In a sailing schools environment you have to determine the position of the mark and set it correctly.

The second stage in anchoring is preparing the tackle. Using a bowline with 2 half hitches is recommended to tie the line to the anchor and the mark.



Reference: http://www.recfishwest.org.au/images/rock-fishing/bowline\_350x200.jpg

The third stage involves setting the tackle correctly. Consider these points: The mark will drift down wind, thus initiate the process upwind of the final position for the mark. Set the mark and allow the line to run freely until the mark hits bottom. If the line was marked you will know approximately how deep the water is. Allow for additional line dependent on your environment (tidal waters & heavy seas will both require more line). Secure the excess line. This is done with a counterweight or by coiling the excess and securing it.



Reference: http://www.iwsf.com/slalomcourselayout/fig1.gif

Safety Considerations: Tangling the line with the propeller is an unnecessary hazard in setting marks. This can be easily avoided by putting the boat into neutral. In more difficult conditions (heavy wind or significant current), wrapping the anchor line around the propeller can created a serious emergency situation. You will be unable to monitor you sailors and can not respond to an emergency. Even worse, you may put yourself or your vessel in jeopardy and you may need rescuing.

**Task:** Candidates are asked to set a triangular course with a gybe assist. Candidates should be able to demonstrate an understanding of wind direction as well as the basic mark set for a sailing school environment. Discussing how wind shifts or bends in relation to the course is an important awareness building skill. The sailing instructors need to know when marks have drifted or when wind has shifted in order to keep the course set in the desired configuration. Instructor should stress the importance of safe line management. Candidates can benefit from experiencing the difficulties of unfouling a line from a propeller on the water while still providing adequate supervision to the sailors.

**Optional Task:** If time permits mock fouled propeller situations could be conducted.

#### Chapter 2: Basic Power Boat Anchoring

At times, you may need to anchor either you own boat or a vessel that you are removing persons from. Your first priority is always to rescue the people and prevent further injury, but once this is accomplished, anchoring a boat to preventing damage may be a handy technique to use. The following steps are basic techniques for emergency anchoring to leave a vessel until further assistance arrives. For more specific anchoring techniques for non emergency situations please refer to any basic boat handling text.

- Determine if you have sufficient spare line to anchor the vessel (you will need to know the approximate water depth). You should be able to release a 3:1 or 5:1 ratio of line to water depth.
- Determine if this is a safe place to anchor (you are not in a shipping way, near underwater cables, or close to other anchored boats)
- Position the boat head to wind or bow to current (whichever is stronger). Remember that you will need more rode in wavy conditions.
- Attach the end of the anchor-line to the bow of the boat being anchored.
- Drop the anchor in the water and let the rode (line) run out as the anchor drops to the bottom.
- Pull the anchored boat backwards slowly to set the anchor. If you do this too fast the anchor will bounce on the bottom.
- The anchor line will become taut when the anchor has grabbed the bottom or set. At this point you can release any reaming line to increase the scope of the rode.

**Optional Task:** If time permits practice anchoring a powerboat.

Chapter 2: Tying the Boat Alongside

Your club may have a specific way that they want the vessel stowed or tied for the night, however if you are out and you need to tie up for a short period of time the vessel can be secured with a bow and stern line. If you are tying up for longer periods or there is a chance of adverse weather you can also use spring lines to keep the boat from being damaged.



Reference: <a href="http://compassmarine.oxatis.com/Files/56492/Img/05/mooring\_line\_diagram.jpg">http://compassmarine.oxatis.com/Files/56492/Img/05/mooring\_line\_diagram.jpg</a>

**TASK:** Candidates should tie the boat alongside. Each candidate should demonstrate skills in tying the boat to a horn cleat or dock ring in a manner that it would be safe and secure for the night. Bow line, stern line and for an aft spring lines should be used.

#### Chapter 2: Heaving a line

A heaving line is a length of line with a weighted end. This equipment is used to transfer a line from vessel to vessel or to a person overboard. Properly throwing a line is a skill that can be used both in rescue situations and in gaining assistance when docking or towing. In sailing situations coaches will use this skill when rescuing a boat that has grounded or drifted too close to the shore or another obstruction for the coach boat to safely make contact with the sailboat to recover it. In order to properly heave a line you must first start with a line that has been coiled properly. If you are working with a three strand line you should coil the line in a clockwise direction. This works with the natural twisting of the line in a right-handed direction. Other lines can be coiled in either direction. The objective is always to coil the line so that it will come undone without any kinks or fouls. Once the line is coiled you can prepare to throw the line by following these steps:

- 1. Secure one end to the boat or dock.
- 2. Hold the half of the line with the untied end (or weighted end) in your throwing hand and the other half of the line in your other hand.
- 3. Prepare to throw the line by first sighting the person and judging the distance. Plan to throw slightly passed the person if they are in the water (so that you do not hit them and you can drag the line to them by pulling on your end) or directly to the person if they are at a dock or other boat and are using the line as an assist for docking or towing.
- 4. Communicate with the person that you are throwing the line to.
- 5. Swing your hand back and then throw the line out in an underhanded pitch manner.
- 6. Allow the line to run freely from your non-throwing hand (keep this hand open, but slightly cupped.
- 7. Communicate as required for the circumstance.



**Task:** Coaches should practice heaving a line to a mark positioned 10 meters from the heaving point. Goal of correctly heaving the line 3/5 throws is recommended. Coaches are encouraged to practice heaving at least once per training season. Coaches who are less experienced vessel handers may be required to heave a line more frequently.

## **Chapter 3**

#### Chapter 3: Rescues

There are several rescue situations that can occur:

- Sinking vessel
- Capsized vessel
- Turtled vessel
- Vessel requiring tow (heavy weather, time sensitive, etc)
- Person Overboard Recovery
- Unconscious or injured person recovery
- Concussions
- Hypothermic person recovery
- Heat emergencies (heat stroke, heat exhaustion)
- Getting Tangled in the Rig/Sheets (entanglement)

#### Chapter 3: Situational Awareness/ Rescue Planning

Rushing into a rescue can lead to poor decision making and increased risk to the rescuers. When coming to the aid of persons or vessels the most critical factor that rescuers need to maintain is their own personal safety. The Life Saving Society uses the slogan "Least Risk to Rescuer" to promote this key concept. Keeping this in mind rescuers need to be trained to keep the emotional aspect of a rescue under control. One of the most efficient ways of maintaining this control is through ongoing realistic practice scenarios at your home club/waterway in your own vessels. This practice should be scheduled as part of the on water safety management plan.

According to the "Search and Rescue Crew Manual, Canadian Coast Guard Auxiliary – Pacific"; when determining the severity of the incident and the rescue services required, the rescuer should first assess the scene. Tyler Brand developed an efficient acronym for this process. "S.A.P. – Stop, Assess, and Plan". This approach strategy helps maintain a calm, organised and well communicated rescue.

Using SAP, a small team can:

- Identify all the hazards in the area or scene,
- Receive input from all team members
- Formulate a solution that best fits the problem.
- Communicate an action plan with the roles for each team member.

A SAP assessment can be as short as fifteen seconds for routine situations and as long as an hour for major incident or disaster. In a coach/support boat situation with experienced personnel most SAP assessments will be relatively quick because as a rescuer, you are familiar with the area or scene and can easily see the potential dangers. The less familiar
rescuers are with the area or scene the more important it becomes not to rush into the area, but to use SAP.

STOPPING: This is quite a simple step that many rescuers have problems with. In most situations the vessel should come to a complete stop outside the event zone. In some situations it may be necessary to maintain steerage way in a current, to slowly circle a scene or to pace a vessel underway.

ASSESSING: The most important step is assessment. In this step the rescuer observes the scene carefully. Avoid jumping into a planning mode. Stick to the facts; what can you see (people, fire, injuries, wind speed, waves, types of boats, availability of outside assistance, experience of the sailors, etc). Account for all of your sailors.

PLANNING: If you have crew members onboard invite them to participate in the assessment and planning stages. Determine the type of assistance that is required and discuss the most effective plan. The rescue leader has the final say. Once a plan is decided the leader assigns jobs and gets verification from the crew and/or other rescue boats. Ensure that adequate supervision of the remaining sailboats (not involved in the scene) is part of every plan. Some times situations can change and make a good plan into a bad one. Be prepared to initiate a backup plan. If things go wrong and the scene becomes unstable pull away from the area and re-assesses the scene for a new plan. Don't be afraid to call for help.

Verbal communications are very important. Messages must be loud and direct; simple gestures aren't good enough, and can be easily misunderstood: Make direct eye contact; Say the person's name and wait for a reply before giving the message. Direct your speech to ensure that you've been heard; acknowledge any requests or commands by repeating the information or stating that you understand; provide as much relevant information as possible. Do not scream. A good leader only screams when there is danger and there is no better way of alerting others.

Once you have a plan and have communicated it to your crew members (if you have other personnel on board) you will be ready to enter the scene. Your common sense is an excellent risk reduction tool. If you think an operation you are about to undertake is too dangerous – don't do it! Keep a constant look out for changing factors in the scene. Sudden capsizes, person overboard or deterioration in casualty status can force you to have to adapt your plan. Always rescue people before craft and whenever possible minimize the damage to all vessels.

Sailing instructors or other Sail Canada trained personnel use a combination of on-water scene management and various safety measures such as; vessel ratio, wind speed limitations, designated sailing area, and highly equipped rescue crafts to increase the probability of a successful rescue.

**Task:** In small groups assign each group one of the following rescue scenarios. Ask the candidates to list what action they would take (using the SAP method) in the rescue scenario they have been assigned. Present the scenarios and lead a group discussion on the validity of several possible strategies for dealing with the rescue. Instructor shall re-enforce to the candidates that there can be several ways to conduct the rescue successfully as long as the key principles are maintained. Don't place yourself, your crew or your vessel in imminent danger & maintain supervision of your students/individuals not involved in the rescue scene. Assist the person(s) in distress in a way that promotes recovery.

Scenario 1: You have sent your coaching partner in the rescue boat to set the collector course and are assisting the white sail two class in rigging. You are focused on helping a boat hoist it's mainsail for a few minutes when you hear the class yelling "hey – you're not supposed to leave the dock until the coach says so". You look up from the boat you are assisting to see another vessel capsize in the docking area. You look for your coach boat and realize that it has not returned from setting the course. You can see both of the sailors (they were in a double-handed boat). The sailors have not learned capsize procedures yet and are screaming frantically for your help.

Scenario 2: You are taking your white sail three sailors for a line sail down wind. There are 6 boats in the class. You radio a nearby instructor (who is teaching a bronze sail class) that you are leaving your designated sailing area. You spend 5 minutes sailing downwind in 5-7 kn winds and call a control position. You explain to the sailors that they are now going to beat back to the course area. The first boat back will get a prize. You explain that if there are any capsizes the sailors all should come to the capsize area and go into the control position. Two boats begin to beat upwind on starboard tack and three begin on port tack. About one minute passes when suddenly the wind-speed triples and your sailors become frantic. Most of them are yelling for your help and have abandoned their tillers. One of the port tack boats is in a sheltered area and does not feel the effects of the gust. There are no capsizes - yet, but the fleet is scattering fast and you no longer feel in control of the water scene.

Scenario 3: You have your Bronze Sail 5 class out learning spinnaker on their fourth day. You set an up-wind/down-wind course and you instruct the sailors to go around the course at their own pace and practice hoisting the spinnaker with the pole set. You are working on pre-setting the guy. The sailors are doing well with the drill and the wind is co-operating. One crew member seems to be struggling more with the pole than the others and you are driving your coach boat over to assist. The skipper and crew are arguing loudly when suddenly you see the pole jump from the d-ring on the mast and strike the crew in the face. The crew's hands quickly go to his face and he turns to face your coach boat. You can see blood seeping between his fingers. The Skipper is screaming for you to come alongside. As you approach the sailboat the skipper is grabbing for your coach boat frantically and the crew is sitting on the thwart quietly with his hands to his face and blood running down his arms.

Scenario 4: You have your winter race team out for a Wednesday night sail. The conditions are cold, but the wind is a perfect 7 knots if you take the sailboats a 30 min sail away from the dock. The sailors are very keen to practice mark rounding, so you set the course in the good wind. You have been on the water for 1 hr. (only 1/2 hr. on course) when one the boats at the back of the pack calls for you to come alongside. The skipper explains that his crew is very cold. This skipper often wants to sail in early at practice, so you ask the crew how he feels and he responds that he wants to stay out. You don't have anyone on shore to look after the crew if you send the boat in. You decide to let them continue sailing. Half an hour passes and the same skipper calls you alongside again. This time he insists that his crew is too cold. You ask the crew how he feels again, and he says cold in a slow quiet voice. You notice that this sailor is usually very animated and cheerful, but is not at all this way now. The wind has been dropping over the hour and is now 4 Kn.

# Chapter 3: Level of assistance

There are three levels of assistance that may need to offer. The higher the level of assistance the more dangerous and complicated the rescue can become.

<u>Guidance and Encouragement:</u> communicating with the persons in distress, providing information and encouraging the sailors to perform a self-rescue. This can be righting a capsize boat, untangling a trapeze harness, swimming for a vessel after person overboard, etc.

<u>Basic Support:</u> Using your coach/ safety boat to provide assistance such as: a mast toss, equipment recovery (drifting paddle, etc), a short alongside tow (involving no lines/easy break away), etc. This can include any task that can be completed with minimum distraction from supervising the remaining fleet.

<u>Full Support:</u> Providing assistance which limits your ability to respond or manage the fleet. Examples can include: Towing using lines, injuries, hypothermia, possible/ pending drowning or loss of sight and communication with any individual.

# Chapter 3: Communication

When communication with EMS (Emergency Medical Services) rescuers need to remain calm and speak in a clear voice. Never use profanity on the radio and try to avoid identifying personnel by name. When making a distress call you should identify the following:

- Who you are
- Your location
- The nature of the emergency
- The number of victims
- What shore services need to be dispatched (police, fire, ambulance)
- What water services need to be displaced (club boat, CCG, police boat, CCGA)
- Where your vessel will meet any shore based services being displaced (dock area)

# VHF

Yelling into a VHF mic will come across as a jumbled and distorted message and could waste valuable time and create unnecessary confusion. Keep the mic approximately 2 inches away from your mouth. Shelter the mic from wind and try to communicate in a

natural tone with sufficient volume. Your standard telephone voice is generally sufficient to communicate your message clearly. Remember to key the mic when you are speaking and to release the key to receive messages. Don't begin talking right away as it takes a few second for the squelch brake to activate the mic. One deep breath is sufficient time. All personnel operating VHF are required by law to hold a valid operators licence. However, in the event of an emergency it may be an un-licensed assistant that is communicating with emergency services. Coach boat assistants that do not hold VHF licences should at minimum be trained in the: channel, squelch, and volume controls on a VHF radio and basic radio language.

Channel: Your EAP should list the operating cannels of the VHF. It may be necessary to change channels to initiate communications with emergency services in your local area. Often the working channel or shore communications channel is different from the emergency services channel.

Volume: works similar to any standard volume control, but is often also the on/off button on a VHF radio.

Squelch: This control affects the strength of the incoming signal and control background noise/static. The squelch should be turned up until the signal is clear.

Radio Language:

OVER:	This is the end of my transmission & I would like you to respond.
OUT:	This is the end of my transmission & I do not want a response.
WILCO:	I understand your last message and I will do what you said I should.
SAY AGAIN:	Repeat your last transmission.
WAIT:	Stand by for more information. I have to pause for a few seconds.
	Don't say over.
AFFIRMATIVE:	correct.
NEGATIVE:	Incorrect.
MAYDAY:	vessel is in grave or imminent danger and required immediate
	assistance.
PAN PAN:	message is urgent, but not life threatening.

"MAYDAY" Distress calls should only be transmitted when a person or vessel is in grave or imminent danger and require immediate assistance. The caller should say: "MAYDAY" three times followed by; "this is ...."; the vessel call sign, if it has one; and the distress message.

Regardless of the communication system utilised (VHF, FRS or cell phone) the information relayed in an emergency situation are relatively the same.

- 1. Identify your vessel
- 2. Give your position

- 3. State the nature of the distress
- 4. State the type of assistance required
- 5. Give the number of people in need of assistance and indicate injuries
- 6. If meeting EMS Be specific about the shore meeting point.

#### Sample Sailing School Distress Messages:

Mayday, Mayday, Mayday, this is Safety 1 - "I am in the Sunny Sky's Yacht Club bronze sail training area. Sailor #5 on my sail plan has suffered a severe blow to the head. He is unconscious, but breathing. I am requesting immediate assistance. There are 6 additional sailboats on the course. We have left vessel 122 a 420 sailboat adrift. I have Sailor #5's crew (Sailor #6) on board safety 1." Wait for a reply, if there isn't one after a minute or so, relay the same message.

A Club's EAP will often layout an emergency communication plan. If this is the case, the coach/safety boat in distress can call the designated person directly. An example of this type of message may be: "Shore Station, Shore Station, Shore Station this is Safety 1 over." Wait for a response and then relay the important information: "I am in the bronze sail training area. Sailor #5 on my sail plan has suffered a severe blow to the head. He is unconscious, but breathing. I am requesting that you dispatch the shore station safety boat and provide immediate assistance. There are 6 additional sailboats on the course. We have left vessel 122 a 420 sailboat adrift. I have Sailor #5's crew (Sailor #6) on board safety 1. In addition have the main desk call for an ambulance to meet us at Jetty 2A."

**Task:** Have the candidates practice sending a distress message. (Don't use a VHF radio, but you may want to practice on a two way Walky-Talky. Whenever you are practicing it is important to indicate that the distress call is an EXERCISE – not a real distress).

Chapter 3: Rescuers checklist

- Recognize danger
- SAP
- Determine the condition of the people
- Recover the people/Promote the recovery of people
- Prevent further injury (to rescuers and victims)
- Recover the Equipment
- Document/ Report the accident

#### **Best Practices**

- Whenever possible have two people on board the rescue vessel
- Increase the level of supervision in inclement weather or when the sailors are sailing in conditions that are challenging for their skill level
- Never lose sight of a person in the water
- Talk to your victims in a calm and reassuring voice
- Keep your propeller away from anyone in the water approach the POB from the leeward side.
- Always preserve life over equipment
- Prevent further injury to any person with a back or neck injury by using extreme caution in removals and treatment
- Don't get in the water unless absolutely necessary use your craft.
- Your victim's physical limitations are as important as your own give instructions that he/she can accomplish
- Write down the accident details as soon as possible following the accident.

ANNEX C provides a sample accident report form and injury report form.

Task: Critical decision making group discussion:

Ask the candidates the following questions:

- If a victim is in immediate and life threatening danger and no one is available to supervise your class what should you do?
- Do you run the person to shore and leave your class unsupervised?
- What instructions do you give the class?

Answer: Not every decision has a simple right and wrong answer. Your response has to minimise the risk to the safety and well being of everyone at the scene. Weather conditions, level of skill of the sailors, vessels in the area are all factors to consider. Generally if sailors are left for a short period of time in the hove-two position (control position) they will be safe until help arrives. Having visual signals in the event of emergency that direct the sailors to Head for Shore, Go into the control position, or come to the coach boat are important steps when it comes to managing risk. Review the safety signals at the start of every practice will reinforce their importance.

# **Chapter 4**

Chapter 4: Rescue techniques for standard scenarios

Section 1: Vessel recovery

#### Sinking sailboat/vessel

Most common cause - sailors forgot to put in transom plug or damage to the stem in a collision causing a hole in the boat. Some new sailors may confuse a swamped boat with a boat that is sinking, however, swamped boats regain their stability when the water is bailed or pumped from the boat's cockpit. Sinking vessels remain unstable as they continue to take on water until they become so unstable that they sink or capsize. The internal buoyancy of a sinking vessel has been compromised.

Course of action - Stabilize the vessel as quickly as possible by inserting the transom plug or lifting the stem out of the water (move the sailors to the back of the boat). Depending on the level of water in the hull (which affects the vessel's stability) you will have to make a judgement call on two fronts: A. to tow the vessel or have the sailors sail it and B. take the vessel to the nearest shore or to return it to the dock area. The stability of the vessel, your ability to control the inflow of water, the distance to both the beach or dock, the sailors experience level, the wind speed and direction, the weight of the boat (it will be heavy with the water inside), the weather (is hypothermia a factor) and the availability of assistance (someone to watch your class or to assist the sailors) are the principle considerations when making these judgements. If you are towing the boat remember that it is more likely to capsize. Keep crew weight back and reduce crew weight by removing one of the crew members (double handed boats). Reduce your speed when experiencing cross waves or other disturbances. If you have a way to bail boat from inside the hull efficiently you may consider bailing some of the water out before taking the boat under tow. If you send the sailors to the nearest shore under sail, you should be sure to keep an eye on their progress. They will be more likely to capsize if the wind is gusty. In addition the sailors will need sufficient strength to pull the boat up onto the beach or dock far enough that it can drain.

# **Capsized vessel**

Most common cause - Gusts

Course of action - Ensure that the sailors are not entangled, the vessel is clear from hazards (i.e. drifting to shore, other boats, shallow water) and then assist with righting the boat as required.

More experienced sailors will often need less assistance and can be attended to from a distance. Less experienced sailors or sailors that are not fit will require more assistance. Most often coaches can assist by providing directions to the sailors and by performing some of the capsize procedures from the coach boat. Holding the boat head to wind by the painter allows the crew to assist the skipper at the Centerboard/daggerboard. By positioning the safety boat at the head of the mast a coach can also perform a controlled mast toss/shroud walk to bring the boat to the upright position. Sailors could also be

instructed to assist themselves in righting the boat by using the jib sheet to pull themselves onto the CB. To accomplish this, the jib sheet must first be swung over the high side of the hull.



Reference: *Safety, Rescue and Support* (p. 30), by United States Sailing Association, 2000, Portsmouth, RI: United States Sailing Association

# **Turtled vessel**

Most Common Cause – novice sailors do not recognize when a boat is turtling and how to prevent turtling by applying pressure to the centerboard/daggerboard as quickly as possible. Coaches should stress that trying to climb over the hull onto the centreboard long after the opportunity to do so has passed will cause the boat to turtle.

Course of action - If the boat is in the turtled position and the sailors are unable to right it, you can use a weighted line fastened to the shroud to pull the boat to the capsized position from the coach boat. With novice sailors, an effective way to prevent the boat from turtling is to tie a buoyant object to the mast head. When a boat turtles it is possible for a sailor to get trapped under the vessel. As there is an air pocket under the sailboat often the sailor is simply afraid to swim out from under the boat and will need some encouragement. However, whenever you respond to an overturned vessel and you do not see all of the sailors when conducting your head count you should respond quickly to assess if the missing sailor is free of danger. Yell out to the sailor and/or knock on the hull to see if they respond. Once you have all sailors in sight you can continue to rescue the craft. In order to right a turtled boat the sailors must break the suction that has developed between the hull and the water. The most efficient way to do so without coach assistance is to use a jib sheet slung from the windward side of the boat to the leeward side. Sailors then stand on the leeward side near the transom of the boat holding the jib sheet. This will raise the bow slightly and break the suction.

Righting turtled sailboats, whether the mast is stuck in the mud or not, can often develop into a serious problem. As an instructor you must evaluate and analyze the situation you face and exercise your best judgement as to what is the safest and most reasonable response. Sail Canada recommends the following methods of recovery:

# MAST NOT STUCK IN THE MUD

Method 1 - "FORESTAY WALK" Possession the coach boat at the bow of the sailboat so that you can grab hold of the forestay. Walk your hands along the forestay toward the tip of the mast pulling the boat into the capsize possession. Try to rotate the sailboat so that the mast is pointing upwind. At this point you can complete a shroud walk or mast toss to right the boat.

The 'shroud walk' will allow you to maintain control over the sailboat. It is completed by starting at the top of the shroud, mast tangs, and walking hand over hard along the shroud toward the boat. As the sails begin to rise the sailboat will turn head to wind. If the sailboat is not free to turn it will become difficult to hold by the shroud.

The 'mast toss' is normally only completed when you have the assistance of a sailor poisoned at the centreboard. Using this technique the coach tosses the mast with enough force to raise it gently into the air while the sailor pulls down on the centreboard (in the normal capsize recovery method). The tossing of the mast gives a light or tired sailor help in raising the rig. The biggest pitfall in using this method is that once the toss is completed the coach boat no longer has hold of the sailboat. If the toss is to light the sail boat will not be righted and the procedure will have to be repeated. If the toss is to hard the sailboat will capsize onto the opposite tack.

Method 2 – Attach a line to a strong point such as the chainplate or mast. Lead the line over the bottom of the sailboat and usually aft of the centreboard. Gently pull with the safety in reverse to rotate the sailboat into a normal capsized position. Try to rotate the sailboat so the mast is pointing downwind.

# MAST STUCK IN THE MUD

With the next methods it would be ideal that the mast would be pulled straight out of the mud without any sideways pressure. This will prevent any bending or other permanent damage.

Method 1 "CENTERBOARD PULL" - The coach boat approaches the centreboard side of the capsized sailboat; an instructor at the bow of the coach boat grasps the centreboard and pulls; the coach boat gently backs away in reverse. This method most closely reproduces the desired angle of pull and is simple. It may not work if the centreboard is too slippery or the mast is stuck firmly in the mud.

Method 2 "SHROUD PULL" - Attach a line to the chainplate of the low-side shroud; back away with the coach boat and then pull on the line. If the mast does not release, you can attach the line to the transom towing ring and then placing the coach boat in forward if necessary. This could also be done with the high-side shroud; however the pulling angle would be less effective.

Method 5 "BOW LINE PULL" - The coach boat approaches the bow of the turtled boat, grabs the bow line and gently turns the sailboat in a circular direction. Initially, try turning the sailboat so the bow is pointed into the wind or the hull is downwind of the mast. This manoeuvre tends to rotate the mast out of the mud. This technique is effective when you really need to act quickly, but it can also cause serious damage to the mast.

Method 6 "DISCONNECT THE MAST" - (to be used as a last resort) In some circumstances it may be possible to actually disconnect the mast from the hull of the boat, attaching a float or life jacket to the mast to mark it's location, and then go back and simply pull it out of the mud. This technique would be best suited for deck mounted masts.

**Task:** Candidates to assist a capsized vessel using the mast toss method

Note: Assisting a windsurfer is not covered in this text. There are also some additional considerations for writing catamarans with righting lines that are not covered in this book. Coaches should be instructed on these techniques at their IDP clinic if they are coaching multi-hull boats or windsurfers.

<u>Section 2:</u> Vessel requiring tow Most common cause - heavy weather or time sensitivities

Course of Action - There are a number of considerations when taking a vessel under tow. The stability of the vessel to be towed, the wind speed and sea state, the capabilities of your vessel (towing vessel) and emergency/first aid are critical considerations. Time sensitivity, number of vessels requiring a tow and supervision of the remaining fleet are secondary considerations. Coaches should use the rescuers checklist to determine if a tow is safe and what type of tow is suitable for the present conditions.

When towing using a tow line it is a legal requirement to assign a spotter to monitor the sailboats or other vessels being towed. This is particularly important when novice sailors are being towed. Sailors will have been instructed during their sailing lessons on how to tie the towline, steering, and balance (CB and crew positioning). Sailors should also be instructed on how to signal the tow boat (using hand signals) for help, reduce speed or give the OK. When using a tow line it is best to: a. fasten the line as close to the bow fairlead as possible, b. lift the centreboard or daggerboard <sup>3</sup>/<sub>4</sub>, c. instruct the sailors to steer a straight course and d. lower the sails. If a sailboat is being towed without a person to steer the boat the centreboard should be fully lifted.

Sailors will often encourage coaches to tow at fast speeds; however this is hard on the coach boat engine, and securing points on both the coach boat and the sail boat. Coaches

must remember that their primary responsibility is safety. Sail Canada recommends the following rules of thumb:

Adjust speed slowly and give a lot of warning when starting or stopping the tow.

Use a wide turning arc, leaving lots of space for the towline to make the turn. Tow at the lowest speed possible.

In rough conditions increase the length of towline between the coach boat and the boat first in line. Generally you want enough line so that the sailboat tracks smoothly or so that the coach boat does not have to work to pull the sailboat up the waves.

Keep a very careful eye on the towline and watch for fouling the propeller.

When handling a towline, make sure the coach boat engine is in neutral.

If a boat comes away from the towline, slow down, but try not to stop, circle back around in a wide arc and pick up the sailboat again. If you stop the sailboats will get bunched up together.

Have the sailors cast off the tow line one at a time starting with the last boat in the line.

Attach the tow lines on each boat to a strong point. This is usually the mast or some cases there is a large fairlead fitted to the deck.

When securing a towline the most common knot used is the bowline. Sailors can be taught to tie the following tow line (or line leading toward the transom from sailboat to sailboat) through the loop of the bowline at the mast vs. around the mast itself. Another style of knot to use is a double round turn and two double half hitches. Double half hitches are useful as they can be quickly released by pulling on the bitter end of the line.

Release boomvangs, outhauls or sprit poles when towing for a long distance to depower the sails.

There are three primary types of tows used by sailing coaches.

# **Alongside Tow**

Often used for short distance tow to put new sailors back on course. When sailors are kept in the boat constant instructions on steerage will need to be given to novice sailors. The sailors can hold on to the coach boat as long as the tow is slow and the sailors are instructed and supervised to keep their hands and other parts form being pinched between the boats. If the sails are kept up the sailboats should be on the leeward side of the coach boat.

This tow can also be used when towing a boat into a confined area or towing a damaged boat back to the dock. In this case sailors should be transferred to the powerboat and the sailboat should be tied alongside the powerboat with a line from the sailboat's bow to the powerboat's bow and a second line from amidships the sailboat (the shroud) to the powerboat's bow. When possible the sailboat should be positioned with the transom ahead of the powerboat's transom, the rudder removed, and centreboard or daggerboard lifted.



#### Bridle tow with individual towlines (painters)

Used for multiple boats or heavy weather conditions as you can get the fleet well behind the safety boat, reducing the load on the safety boat engine and providing a more stable tow for the sailors. The coach boat must have sufficient line to set up a transom bridal. In order to limit the possibility of sailboats accidently sailing into the tow line and entangling the tow, the coach boat should come to the sailboat instead of asking the sailors sail to the coach boat.



#### **Transom line tow using mainsheets**

This is a quick and easy short distance tow for multiple boats. It is recommended that this type of tow only be used in light air conditions as it puts significant pressure on the mainsheet block.

**Task:** Candidates to tow sailboat 25 meters using alongside tow and 25 meters using transom tow.

#### Section 3: Person Overboard Recovery

Most often, in coaching situations, person overboard recovery is performed by the sailing vessel, however in some cases the coach boat must recover the person overboard. The critical consideration in this manoeuvre is maintaining eye contact and when possible verbal contact with the person while transitioning the coach boat through the recovery process. Using the rescuer's checklist the operator should establish a plan and communicate this plan to the crew (when applicable). This process does not need to be lengthy, but each step is important in maintaining a safe environment. Generally person overboard is performed as follows:

- 1. Reduce speed if underway
- 2. Alert the crew or acknowledge the POB Yell "Person Overboard"
- 3. Assign a spotter to maintain eye contact and verbal contact with the person (the spotter should reassure the person that they are going to be recovered and can assess the scene by asking questions such as; "Are you injured"?
- 4. Manoeuvre the vessel back to the person by completing a wide circular approach to the person. Keep in mind the person should be approached from leeward (keep the person on the windward side of the vessel). Because coach boats tend to be small in nature they rise and fall with wave action and can pound down on a person in the water if they are approached from the windward side.
- 5. Recover the person at the forward quarter of the vessel when appropriate to the vessel characteristics. However if recovering at the stern of the vessel coaches must ensure the engine is turned off. If the person is conscious and non-injured they should be instructed to assist in the removal process. The under arm lift is the most common type of removal from the water to a coach boat. It is important to have the person face the coach boat in this lift so that they can bend at the waist as they enter the vessel. A parbuckle lift can be used when the person is large or is suffering from severe hypothermia. This lift involves tying two lines (each approximately 3 meters in length) to a secure point on the floor of the coach boat. The lines should be secured about 4 feet apart (this may be slightly longer if the person overboard is tall). Position the person so that they are lying horizontal along the gunwale with their head toward the bow. Position the line around the person's shoulders (keeping their arms against their body) and about 1 foot above the knees. Explain to the person that you are going to roll them onto the boat. Pulling on the lines, but being careful to support the person's head as they are lifted, roll the person aboard.



Parbuckle Lift

- 6. Assess the person call for assistance if required and treat injuries, hypothermia, and shock. In the case of a non-breathing victim coaches must make the determination if they have sufficient resources to commence first aid. Coaches should always follow the most recent first aid protocols.
- 7. Transport the person this will most often mean taking them back to their sailboat so that they can continue sailing. When approaching the sailboat ensure communication with crew members so that they keep the sailboat stopped and under control. Instruct the sailor to keep a lookout so that they are not pinched between the sailboat and the coach boat at the final approach.
- 8. Transfer the person The person will often want to scramble quickly into the sailboat, however it is important to ensure that the coach boat and sailboat are securely alongside each other. This can be accomplished by simply holding the boats together at the bow and amidships (shroud area). Ask the sailor to move from one vessel to the other with consideration for their balance.

**Task:** Candidates to complete a person overboard recovery (use skills checklist Chapter 5). Person overboard should not be practiced with a real person; use a PFD or other suitable buoyant object. Allow the candidates to review the evaluation criteria in advance. Ask candidates to work in partners (one person being the spotter and the other manoeuvring the coach boat). Candidates can then switch rolls.

**Task:** Removing a person from the water into the coach boat. If completing this course in winter ask that one of the sailors bring a wet suit or dry suit to the course. Taking turns ask the candidates to remove a person using the underarm method and the parbuckel method.

Section 5: Unconscious person recovery & Concussions

Recovering an unconscious person from the water is performed in the same way as the standard POB, however special consideration needs to be given to alerting emergency medical services (EMS). The club Emergency Action Plan (EAP) should provide critical direction with respect to this communication process. If on water emergency services are not provided in your local area then a shore-based response must be mobilised. The ambulance pick up point should be pre-determined. Contact with the club to obtain medical information, Health Care card number, and initiate parental contact is a secondary consideration. Recording the accident on the club accident report form is a vital step. This record may be used if legal action is taken as a result of the injury. Keeping your first aid up to date and including accident response practice in your preseason training are both important measures your club can take to minimise liability and risk.

#### Concussions

As being hit by the boom is one of the greatest contributing factors to POB an unconscious person overboard recovery should always be associated with a concussion injury unless the mechanism of injury is known and does not support this diagnosis. When a person has been unconscious (even briefly) due to an impact to the head, medical personnel should be alerted to the possibility of a concussion immediately. A conscious person that has been hit by the boom and seems disorientated or is slow to respond should also be assessed by medical personnel at the soonest available opportunity. Sail Canada recommends that coaches transport persons with suspected head injuries to shore where parents/guardians can be called and asked to seek medical advice. When dealing with concussions the rule of thumb is – if in doubt ...get it checked out!

**Knowledge:** Candidates to answer knowledge questions on Concussions.

# Section 6: Hypothermic person recovery

Hypothermia is the lowering of the body's core temperature. Hypothermia is not often a problem in a summer sailing school environment, however it is essential that coaches monitor their sailors' physical condition. Sail Canada's hypothermia prevention education comes earlier in a sailor's progression so that they can dress appropriately for the weather and self-monitor their temperature (hypothermic condition). Capsize and cold weather sailing increases the risk of hypothermia. When faced with a hypothermic sailor the key point to remember is to get the sailor out of the cold environment as quickly as possible and into a re-warming environment. Re-warming the sailor slowly prevents shock from a sudden circulation of cold blood to the internal organs. Rubbing the extremities to increase circulation can also cause shock symptoms. Giving a person who is conscious "warm" drinks of non-alcoholic or heavily caffeinated nature will encourage re-warming from the interior to the exterior. Instruct the sailor to do the following:

- Remove wet clothing and replace with dry items (it is not recommended that the hypothermic sailor be instructed to have a shower), as there is a possibility that they will become lightheaded and fall.
- Put a hat on to protect heat from escaping.
- Use the buddy system whenever not under direct coach supervision so that the coach can be alerted if the hypothermic person's condition deteriorates.

Knowledge: Candidates to answer knowledge questions on Hypothermia.

Section 7: Heat emergencies (heat stroke, heat exhaustion)

Heat emergencies are cause by exercising in hot conditions and not maintaining proper hydration. Heat exhaustion is the milder form of a heat emergency, but if untreated can become heat stroke. Heat Stroke can lead to death; it is a medical emergency. You should get medical help immediately.

Heat Exhaustion Signs (MedicineNet.com)

- heavy sweating
- paleness
- muscle cramps
- tiredness
- weakness
- dizziness
- headache
- nausea or vomiting
- fainting
- skin is cool and moist
- pulse rate is fast and shallow

# Heat exhaustion treatment

In a sailing setting it is practical to cool the person down using the following measures:

- give them a cool, non-alcoholic drink (preferably water)
- let them rest in a shady area or air-conditioned environment
- let them cool off in the water
- get them to remove any excess clothing
- Get them to wet their head and then wear a wide brimmed hat (baseball cap or tilly hat).

# Heat Stroke

Heat Stroke is a form of Hyperthermia – "abnormally elevated body temperature (106 degrees F or higher) with physical and neurological symptoms". Some individuals can develop symptoms of heat stroke suddenly and rapidly without warning. Victims of heat stroke must receive immediate treatment to avoid permanent organ damage. (MedicineNet.com).

Heat Stroke Signs (MedicineNet.com)

- high body temperature
- the absence of sweating, with hot red or flushed dry skin
- rapid pulse
- difficulty breathing
- strange behavior
- hallucinations
- confusion
- agitation
- disorientation
- seizure
- coma

Heat Stroke treatment

In a sailing setting you should take the following action:

- Call for emergency services
- Cool the sailor down (if transporting them to a shady area use extreme caution),
- Remove excess clothing, use the excess clothing to cool the sailor by wetting the clothing and applying the wet clothing. Repeat this process as soon as the water in the clothing gets warm.
- Fan the sailor to promote sweating and evaporation
- If you have an ice pack in your emergency kit, it can be placed under the sailor's armpits and groins.
- Emergency services may also give you further instructions for treatment of the victim.

# Rehydration:

Rehydration is a major issue in sport and it is particularly important in hot conditions. Rehydration is the most critical factor that can prevent heat related emergencies. Most sailing schools make it mandatory for sailors to carry a water bottle; however it is up to the coaches to allow for sufficient time to take regular rehydration breaks.

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**Knowledge:** Candidates to answer knowledge questions on Heat stroke, heat exhaustion, and rehydration.

# Section 8: Getting Tangled in the Rig/Sheets

Getting tangled in the various sheets of equipment onboard a dinghy can be a very frightening and dangerous experience. Careful monitoring of sailors is necessary to ensure an immediate response to entanglement. Because most small sailboats will turtle if left unattended, an entanglement situation can escalate to a drowning. Even the most experience coaches will have very limited experience dealing with a serious entanglement. This is however, one of the most serious rescue emergencies that sailing coaches will encounter. If forced to enter the water to assist the entangled sailor, sailing instructors are placing themselves in danger as well.

The correct course of action is always relative to the specific situation. In general the coach must:

- 1. Assess the situation is the person being pulled below the water or can they be kept above water. Can the boat be prevented from sinking or turtling? What tools are required? Get wire cutters or knife ready if needed. Talk to the victim (if possible) and gather relevant information about their condition and how they are entangled.
- 2. Call for backup if leaving the vessel, initiate the 'ladder approach' ...
- 3. Prepare for water entry Remove communication devices that are not submersible only if time permits. If the person is in need of immediate assistance you may not have time to remove communication devices. Take the required tools and take an entry assist if available (extra PFD or floatation device).
- 4. Enter the water Slip in entry, stride entry or head up dive.
- 5. Try to free the sailor communicate with them and free them in the least harmful way.
- 6. Once freed conduct A, B, C's, remove from water, and transport to Emergency Medical Services (as applicable).
- 7. If they can't be freed Keep a calm, try to think the rescue through starting with the source of entanglement. Keep working to free the victim and/or put them in a position that they can breath.

# Common Tools Required

Wire cutters and/or a good knife are required when the entanglement issue involves rigging. Sailors can get trapeze hooks, Personal Flotation Device buckles or straps and other items of clothing caught in the rigging. The person's safety shall always take president over the vessel. Knowing when to cut is as important as knowing what to cut (shroud, forestay, trapeze system). Having a good quality set of wire cutters is very

important. The Swiss made "Felco" brand cable cutters are recognized throughout the world for their precision manufacture and cutting capabilities.

Knowledge: Candidates to answer knowledge questions on Entanglement.
What questions should you ask yourself when dealing with a sailor which is tangled in the rigging?

Is the person being pulled below the water?
Can you talk to them?
Can they be freed?
Howe can they be helped?
Is the boat sinking?
How fast must you respond?
What tools are required (knife, wire cutters, pliers)?
Who can you call for back up? Does anyone need to be notified before you enter the water?
What is the safety technique for entering the water?

**Optional Task:** In warm weather candidates can be asked to demonstrate their ability to get underneath an overturned boat (into the air pocket) and remove a PFD.

**Task:** Demonstrate proper use of wire cutters. Demonstrate the difference in 'ease of cut' between low quality wire cutters and the top brands, such as, "Felco" brand cable cutters.

**Task:** The instructor should share real video or stories about sailing accidents with the candidates, for example:

Bruce Kendall, Olympic gold medallist and former world champion windsurfer who struck top American boardsailer Kimberley Birkenfeld with his coach boat. http://www.brucekendall.co.nz/articles/1005/bruce-rekindles-olympic-dream/

"Girl, 17, and her father killed as dingy capsizes at reservoir" - 2009 <u>http://www.dailymail.co.uk/news/article-1199830/Girl-17-father-drowned-trying-rescue-</u> sailing-accident-loses-battle-life.html

"Investigation in to tragic accident at Kielder Water" – 2009 <u>http://www.rya.org.uk/newsevents/news/Pages/InvestigationintotragicaccidentatKielderWater.</u> <u>aspx</u>

"Man dies after dinghy accident" – 2010 Mr Dorman's life jacket failed to inflate after the dinghy he was on overturned. <u>http://www.u.tv/News/Man-dies-after-dinghy-accident/fcbc98a6-40f0-4371-babb-fdd74ab19203</u>

# **Chapter 5**

#### Chapter 5 - Practical Evaluation Standards

**Evaluation Process:** 

- ✓ The instructor shall grade candidates by giving one point for completion of each of the steps in the grading table below. Items in *italicizes* are critical skills.
- ✓ The lowest risk rescue possible under the circumstances must always be chosen. Candidates who show little concern for personal safety throughout the evaluation shall not be successful.
- ✓ In all rescue scenarios it is assumed that the coach has followed the club Emergency Action Plan (EAP) with respect to on water emergencies. This would include letting his/her group of sailors know what they are doing while the coach is dealing with the on water emergency.
- ✓ Many of the evaluation standards are written for two rescuers, however all scenarios may be evaluated as one person rescues.
- ✓ There are 3 mandatory parts to the CBS certification and one in water optional component

Part A: Rescue Scenarios Part B: Coaching Scenarios Part C: In-water skills (optional) Part D: Knowledge test

# Part A: Rescue Scenarios: Evaluations from a coach boat

Station #1	
Skill: Person Overboard	

Situation: Unconscious and hypothermic victim. A personal flotation device – PFD is in the water. Rescuer must approach the PFD, recovering it from the water, initiate any first aid required and transport the PFD to safety.

# **Approach: TOTAL: 6 Points**

- Sound the alarm "yell person overboard"
- Assign spotter duties (keep eye on the POB)
- Slow speed of approach
- When vessel turned, the engine should be away from the PFD
- Down wind approach to the PFD
- PFD must be on the windward side of the boat and at the front <sup>1</sup>/<sub>4</sub> when recovered

#### **Communication: TOTAL: 2 Points**

- Spotter maintains communication with the PFD throughout
- Spotter maintains eye contact with the PFD throughout
- Operator maintains communication with spotter throughout

#### **Recovery: TOTAL: 1 Point**

• Appropriate 2 person horizontal lift (par buckle lift) to remove the PFD from the water (prevents shock from cold water flushing the body core)

#### First Aid: TOTAL: 4 Points

- Complete primary body survey,
- treat victim for shock,
- continue to monitor vital signs, and
- Call for help (must give name, location, type of service needed (ambulance, fire, police), victim type, drop off point for ambulance).

#### **Transport: TOTAL: 4 Points**

- Put person in a stable and safe position.
- Continue to reassure the person
- Transport to pre determined meeting spot to transfer to ambulance.
- Safe speed to drop off.

Score: / 17

Pass = 12/17 points

Station #2

Skill: Transfer Non-breathing Person from Sail to Power Boat

Situation: Unconscious non-breathing victim in sailboat with a frightened crewmate. Rescuer must approach sailboat, calm crewmember, recover non-breathing victim from the sailboat, initiate any first aid required and transport person(s) to safety.

# **Approach: TOTAL: 3 Points**

- Candidate should Stop, Assess the situation, and Plan the safest approach.
- Safest approach should be taken. Can be down wind or up wind.
- Approach should not take more than 2 attempts. Should be controlled and crewmembers must be seen working together.

# **Recovery: TOTAL: 4 Point**

One person should be:

- calming the crewmember down (can leave in sail boat or take out depending on the position of the victim) and gathering information on what caused the accident.
- Treat for shock

Second person should:

- assess the unconscious non-breathing person (primary survey) and
- determine victim is not breathing
- transport the victim from the sailboat to the rescue boat (with assistance) in an orderly manner.

#### First Aid: TOTAL: 4 Points

- repeat primary body survey,
- Start CPR immediately
- Continue CPR until victim starts breathing or medical personnel take over.
- call for help (must give name, location, type of service needed (ambulance, fire, police), victim type, drop off point for ambulance).

#### **Transport: TOTAL: 4 Points**

- Ensure all persons are in stable and safe positions.
- Transport to predetermined meeting spot to transfer to ambulance.
- Safe speed to drop off.
- Continue CPR and treat second victim for shock.

# **Score:** /15 **Pass = 11/15 points**

# Part B: Coaching Scenarios: Evaluations from a Coach Boat

**Evaluation Process:** 

- ✓ Instructor should grade candidates by giving one point for completion of each of the steps in the grading table below.
- ✓ Items in *italicizes* are critical skills

Station #1	
Skill: Prepare for Departure	

Evaluation Standard:

- Safely pour a small amount of gas from a jerry can into a coach boat tank, using the appropriate oil-gas ratio
- Safely enter and exit the coach boat
- Ensure all required and optional safety equipment is onboard and describe their uses
- Start and stop the coach boat engine
- Demonstrate an alternate method for starting a small outboard engine

Station #2	
Skill: Tow a Sailboat	

Situation: Wind has died and you need to get your sail boats in to the dock to make their parent pick up time. You must approach a sailboat, properly secure towline to rescue boat and sail boat, tow the sailboat to the docking area, retrieve your tow line and return for another sail boat.

#### **Approach: TOTAL: 3 Points**

- Safest approach should be taken. Can be down wind or up wind.
- Approach should not take more than 2 attempts. Should be controlled and crewmembers must be seen working together.

# **Recovery: TOTAL: 4 Point**

- One person should be:
- Organizing the towline
- Tie line in suitable manner to both boats
- Keep look out on the boat being towed.

Second person should:

- Organize the approach to the sailboat
- Communicate approach to sailboat crew and powerboat crew

• Operate boat at safe speed

#### **Transport: TOTAL: 3 Points**

- Ensure all persons are in stable and safe positions.
- Transport sailboat to dock area maintaining safe speed and visual on boat being towed.
- Safe speed to drop off. Recover all lines and return to fleet to pick up another boat.

#### Score : / 10 Pass = 7/10 points

Station #3	
Skill: Rescue a Sailboat	

Situation: Warm Yacht Club mid summer: Sailboat has capsized and the sailors say they cannot right the boat. The boat may be in the turtled or capsize position. The sailors claim they are too tired to right the boat themselves but are not hypothermic. You must approach the sailboat and assist the sailors in righting the boat.

#### **Approach: TOTAL: 4 Points**

- Safest approach should be taken (can be down wind or up wind).
- Approach must consider the position of the persons in the water.
- Approach should not take more than 2 attempts.
- Should be controlled and crewmembers must be seen working together.

#### **Recovery: TOTAL: 7 Point**

One person should be:

• Talking to the sailors to let them know what assistance the rescuers will be providing and keeping a look out on the position of the sailors.

Second person should:

- Organize the approach to the sailboat and approach in an orderly manner.
- Organize a mast toss for a capsized boat or assistance with righting the turtled boat by applying weight to the centre board.
- Ensure all persons are in safe positions.
- Right the sailboat with minimum delay and with good communication.
- Ensure the sailors are not too cold to continue sailing.

Score : /11

Pass = 8/11 points

# Station #4

#### Skill: Set a mark and recover the mark

Evaluation Standard:

- attach line to mark and anchor correctly
- choose correct position for mark
- *do not get mark fouled in the propeller*
- mark holds position (does not drift)
- Departs mark without fouling in propeller
- Returns to mark (alongside in two or less attempts)
- Retrieves and safely stows the mark and anchor for transport

#### Station #5

Skill: Anchor a Coach Boat

**Evaluation Standard:** 

- attach line to boat and anchor correctly
- choose correct position to anchor boat
- set the correct scope for wind and bottom conditions
- boat holds position (does not drift)
- retrieve and safely stow the anchor for transport

# Station #6

Skill: Stopping Distance and manoeuvring in a confined space

Evaluation Standard Stopping Distance:

- comes to full stop within 1 m of target
- does not use reverse to stop
- reaches target 3 out of 4 times

Evaluation Standard Manoeuvring in a Confined Space:

- Does not use excessive speed (forward or reverse)
- Maintains control
- Keeps a lookout in the direction the vessel is travelling
- Understands pivot point
- Completes one controlled simple docking
- Completes one controlled simple departure
- Comes to full stop within 1 m of target
- Does not collide with dock or other obstacles

#### Station #7 Skill: Coach boat positioning

Situation: Coaches shall practice operating a coach boat while following a sailboat upwind and downwind. The sailboat may tack or gybe at any time without warning to the coach boat operator.

**Evaluation Standard**:

- Position the coach boat off the leeward transom quarter of the sailboat when the sailboat is travelling upwind.
- Position the coach boat off the windward transom quarter when the sailboat is travelling downwind.
- Accurately maintain the correct position while avoiding collisions
- Be in close enough proximity to the sailboat to be easily heard and understood by the sailor and face to face whenever practical.

# Station #8 Skill: Secure Coach Boat

Evaluation Standard:

- Secure coach boat alongside to a horn cleat or dock ring
- Use bow, stern and spring lines as required
- Tie each of the following within 30 seconds
  - Bowline and bowline with half hitches
  - Sheet Bend
  - Round turn and 2 half hitches
  - o Cleat knot

Station #9
Skill: Throwing Assists - Heaving a line accuracy test

Situation: Item can be performed on land, but outdoor aquatic setting preferred. A human target is not necessary. The intent is to land the aid within grasp of a victim. Candidates should practice the skill using a variety of aids with and without lines.

Evaluation Standard:

- aid reaches within 1 m of centre of target
- accuracy 3 out of 4 times

#### Station #10

Skill: In-Water (may be done in pool or at alternate time)

Evaluation Standard:

- Demonstrate the correct method for putting on a PFD in the water (can be done on shore)
- Wearing a PFD, demonstrate the ability to swim 50m freestyle unassisted
- Wearing a PFD, demonstrate the ability to swim 50m while towing another person

#### Station #11 (optional)

- If sailors are available and time permits candidates can be taught the following skills: Communicating with the environmental noise and hazards (other sailors)
- Organize a control position

#### Discussion Items (mandatory)

Instructor should discuss the appropriate action to take in the following situations:

- Removing a person from underneath a capsized boat –
- Entanglement in the trapeze removal
- Heat emergencies (heat stroke & heat exhaustion)
- Coach boat safety requirements: list mandatory equipment in accordance with Transport Canada, no operators under the age of 16 shall operate a vessel with more then 25HP and certification requirements (PCOC and VHF).
- Adaptations to rescue procedures in rough weather as compared to fair weather:
  - sense of increased noise distractions that limit communications, and methods to overcome such;
  - adaptations to be made in operating the coach boat– type motor boat rescue craft – slower in large waves; not straight into the waves; and
  - factoring in differences in how to approach and position rescue boat when noise, waves and high winds are present, and maintaining a safe rescuing boat position throughout the rescue.

# Part C: In-water skills (OPTIONAL) The following skills will be conducted in the open body of water (lake, ocean, etc.).

Station #1	
Skill: Tow a victim	

Situation: Candidates must get into groups of two. They must tow each other 50 meters while wearing PFD's. The person being towed is conscious and breathing. The person approaching must do so in the reverse and ready position and choose appropriate tow style.

Evaluation Criteria:

- Candidate chooses an effective aid
- Candidate chooses an effective entry
- Candidate chooses an effective tow
- Water is prevented from entering the victim's airway
- Distance completed
- Removal is completed (victim removed from water)

Station #2	
Skill: Carry	

Situation: Candidates must get into groups of two. They must carry each other 50 meters while wearing PFD's. The person being carried is unconscious and breathing. The person approaching must do so in the reverse and ready position and choose appropriate carry style.

Evaluation Criteria:

- Candidate chooses an effective aid
- Candidate chooses an effective entry
- Candidate chooses an effective carry
- Victims mouth and nose are supported above the water during the carry
- Distance completed
- Removal is completed (victim removed from water)

#### Station #3 Skill: HELP & Huddle positions

Situation: Candidates must demonstrate the HELP and Huddle positions.

Evaluation Criteria:

- Candidate maintains HELP position effective for 1 minute
- Candidates maintains Huddle position effectively for 1 minute
- Candidates can explain advantages of HELP and Huddle positions
- Candidates can explain main heat loss areas

# Station #4

Skill: Putting a PFD, enter the water, remove the PFD, put the PFD back on and refasten all zippers and buckles.

Situation: Candidates must put a PFD on and remove it in the water

Evaluation Criteria:

- Candidate remains afloat when removing PFD
- PFD is fully removed
- Candidate remains afloat when refastening PFD
- PFD is fully refastened (inc all zippers and buckles)

Station #5	
Skill: Tread Water	

Situation: Candidates must tread water for 3 minutes without the assistance of floatation.

Evaluation Criteria:

- Candidate remains afloat for 3 minutes
- Head remains above water at all times

# Part D: Knowledge Test

Instructor shall administer the knowledge test. A pass mark of 75% is required.

Coach Boat Safety Techniques Candidate Evaluation																		
-	r		1	C	ana	laai	e Ev	aiuc		n								
Р	Successfully skills	y demonstrated the	rboard	ching at				Mark	at	/ Space	oning		<b>-</b> - ·	<b>–</b>	<b>-</b>	<b></b> -		N
М	Marginal pe skill/had to l	rformance of be prompted	erson Ove	r non-breat o power bo	ation 1: Prepare for	Tow a Sailboat	Rescue a Sailboat	Set and Recover a ]	Anchor a Coach Bo	Stopping Distance/ ring in a Confined	Coach Boat Positic	Secure Coach Boat	In-Water	: Heaving a line	ı İtems	tional)	nowledge Exam	ALUATIO
F	Failure to pe	erformance of skill	ation 1: I	Transfer m sail to														EV
Two marginal (M) performances or one failure (F) to perform a skill will result in an unsuccessful evaluation.		<b>Part A</b> : St	Station 2: person fro	<b>Part B</b> : Sta Departure	Station 2:	Station 3: ]	Station 4:	Station 5: .	Station 6: 9 Manoeuvi	Station 7: •	Station 8: 9	Station 9: ]	Station 10:	Discussion	Part C (op	Part D: Kı		
Candid	late' Name																	
Address (including Postal Code)																		
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Address (including Postal Code)																		
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Address (including Postal Code)																		
Phone	Number	DOB (Day/Month/Year)																
Cours	se Location	n		1	1				Ι	Date	1	u	u	u				
Instructor Name: Instructor Number:																		

# **Chapter 6**
Chapter 6

To be added in future editions

# Chapter 7

Chapter 7

LSS Evaluation (ONLY for LSS LSI with Boat Rescue instructor certification).

Sail Canada sailing coaches who also hold Life Saving Society Boat Rescue Instructor certification are highly encouraged to complete the LSS BRA evaluation.

For more information on how to become a LSS Boat Rescue instructor candidates should contact their provincial LSS branch. Some LSS branches allow sailing instructors to become Boat Rescue instructors without a Life Saving Instructor qualification. These coaches are allowed to offer LSS BRA certification but not any of the swimming awards.

To contact a LSS office near you: http://www.lifesaving.ca

For a copy of the most up-to-date LSS BRA evaluation sheet, go to: <u>http://www.lifesaving.bc.ca/test-sheets-and-rosters</u> Under Specialized Training, follow the link to the Boat Rescue evaluation form.

# Annex C: Sample Accident Report Form

## Sample Accident Report Form

Date of report//_			dd	mm	уууу	
PATIENT INFORMATION						
LAST NAME:		FIRST NAME:				
STREET ADDRESS:		CITY:				
POSTAL CODE:		PHONE: (	)			
E-MAIL :		AGE :				
SEX:MF	HEIGHT: V	VEIGHT:	DOB	/	/ / yyyy	
KNOWN MEDICAL CONDITIONS/ALLERGIES:						

#### INCIDENT INFORMATION

DATE & TIME OF INCIDENT:	1		OF	FIRST	TIME	OF	MEDICAL
	AM	NIENVE	N HON.	AM	SUFFC		AM
	BM -		_	DM			BM
оо нин уууу	E MI			E M			EM
CHARGE PERSON, DESCRIBE THE INCID signs and symptoms of the patient)	DENT: (w	/hat took	place, v	vhere it t	ook plac	e, wha	t were the
PATIENT, DESCRIBE THE INCIDENT: (see	above)						
EVENT & CONDITIONS: (what was the eve surface quality, light, weather etc.):	nt during	) which th	incide	ent took p	olace, loc	ation o	of incident,
ACTIONS TAKEN/INTERVENTION:							
After treatment, the patient was:							
Sent home Sent to hospital/a clini	ic 🖂	Return	ed to ac	tivity			

### Accident Report Form (p.2)

#### CHARGE PERSON INFORMATION

LAST NAME:	FIRST NAME:		
STREET ADDRESS:	CITY:		
POSTAL CODE:	PHONE: ( )		
E-MAIL:	AGE:		
ROLE (Instructor, assistant, parent, official, bystander, therapist):			

#### WITNESS INFORMATION (someone who observed the incident and the response, not the charge person)

LAST NAME:	FIRST NAME:
STREET ADDRESS:	CITY:
POSTAL CODE:	PHONE: ( )
E-MAIL:	AGE:

#### OTHER COMMENTS OR REMARKS

#### FORM COMPLETED BY:

PRINT NAME

SIGNATURE

### References

Safety, Rescue and Support: The safety boat, certificiation series, 2000, US Sailing

Start Powerboating Right, US Sailing

Search and Rescue Crew Manual, Canadian Coast Guard Auxiliary - Pacific

Small Craft Training, Canadian Coast Guard - Pacific Region, June 2001

Blue Instructor Manual, Canadian Yachting Association

Life Saving Society Boat Rescue course evaluation sheet.

Powerboating Skills, D. Neff, 1945. Copyright 1990 by Canadian Yachting Association

Powerboating Handbook, P. Glatzel, 2006. Copyright 2006 by The Royal Yachting Association.

*Start Powerboating*, J. Mendez, 2006. Copyright 2006 by The Royal Yachting Association.

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