

BOATING INFORMATION THE FUNDAMENTALS

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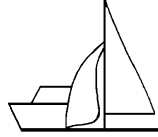
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About Us



Bruce and Fran Stott founded Gulf Islands Cruising School Ltd. in 1980. Their focus is teaching safe boating through instruction, courses, and providing resources for boaters.

Gulf Islands Cruising School Ltd. has helped thousands of boaters from around the world realize their dreams of pursuing the hobby or lifestyle of boating. Their base is Sidney, BC on Vancouver Island where boaters have the opportunity to learn in the protected waters of the Canadian Gulf Islands.

Information on various aspects of boating is available on the following sites created by Gulf Islands Cruising School Ltd.

www.cruising.bc.ca

www.unlimited-articles.com

www.cruising.bc.ca/boating_forum/index.php

www.cruising.bc.ca/store1.html

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TYPES OF BOATS

There are many types of boats available for the new or experienced boater.

Before buying a boat, decide what activities your family wishes to enjoy. Consider the following questions:

- Where will you be using your boat - rivers, lakes, ocean?
- How many people will be using the boat at one time?
- Do you want it trailerable or will it be kept at a dock?
- Do you want to be able to sleep and cook aboard?
- What qualifications will you need to operate the boat?
- What safety equipment is required?
- What is the cost of insurance?

Family boating is fun especially with a dinghy.

A dinghy which may be sailed, rowed, or equipped with a motor can add to your fun time on the water. Dinghies can be rigid or inflatable and are usually easily transported. A dinghy is an inexpensive way to introduce your family to boating and can bring hours of pleasure.

There are safety rules applying to all watercraft which can be found in the Boating Safety Guide.

If a dinghy is less than 4 metres, the operator will have to show Proof of Proficiency, one form being the Pleasure Craft Operator Card.

BOATING TERMS

Here are some basic boating terms which will be of assistance:

Port - The left side when facing the bow.

Starboard - The right side when facing the bow.

Windward - The direction from which the wind is coming.

Leeward - The direction in which the wind is going.

Amidships - the mid point of the boat between bow and stern, or from side to side.

Abeam - A direction to either side of the boat at right angles to line from bow to stern.

Ahead - in front of the boat.

Underway - when the boat is not moored, anchored or aground. It is floating free from the earth.

Leeway - the motion of the boat to leeward.

No way - when the boat is not moving.

Astern - behind the boat.

RULES OF THE ROAD

The *International Regulations for Preventing Collisions at Sea*, also know as *ColRegs*, are the laws the govern vessels at sea. The Basic rules for Power-driven vessels are the same as the rules we use on the highway.

Rule 11 states "Rules in this section apply to vessels in sight of one another" Therefore if you are operating in restricted visibility, the following Rules do not apply.

Rule 13 "Overtaking Any vessel overtaking any other shall keep out of the way of the vessel being overtaken."

Notice the Rule says "any vessel". The word "shall" means "must".

A case that many people mis-understand is where we have a sailing vessel overtaking a power vessel that is moving slowly, perhaps they are fishing and trolling for salmon at 2 knots. Because the sailing vessel is overtaking the power driven vessel, the sailboat must keep clear. Many people have been taught that power **always** gives way to sail.

The question then becomes "When am I overtaking?" Rule 13 (b) states "A vessel shall be deemed to be overtaking when coming up with another vessel from a direction more than 22.5 degrees abaft her beam." In simple terms if at night you would only see the white stern light and not the sidelights. In highway terms if you saw only the taillights of another vehicle, you are overtaking.

Rule 14 "Head-on Situation When two power-driven vessels are meeting on reciprocal or nearly reciprocal courses so as to involve risk of collision each shall alter course to starboard so that each shall pass on the port side of the other. On the highway this would be the narrow road situation. When meeting another vehicle, everyone pulls over to the right.

Rule 15 "Crossing Situation When two power-driven vessels are crossing so as to involve risk of collision, the vessel which has the other on her own starboard side shall keep out of the way and shall, if the circumstances of the case admit, avoid crossing ahead of the other vessel." The highway version is two vehicles meeting at an uncontrolled intersection. The one on the right is right.

I have had two instances recently where Rule 15 has been broken. The first was while teaching aboard a 86' Queenship motor yacht. We observed a Grand Banks 42 trawler approaching about 2 miles away off our port bow. The lady who was on the wheel observed that we had a potential risk of collision and that we were the stand-on vessel and therefore required to hold our course and speed. We discussed that the trawler should be altering course to cross our stern. As the minutes passed we could not detect any alteration of course so I suggested that we slow down.

The other vessel kept proceeding and we went to neutral on both engines. The trawler crossed our bow within 0.1 miles with the skipper waving his arm at us. I noted the vessel name on the stern and called him on Channel 16. When he responded I switched to Channel 9 and he told me we had a fender that was left down on our port side. When I thanked him I noted that we were the stand-on vessel and that we had to stop to avoid a collision, his reply was "Oh, sorry".

The second instance was as we were returning to Tsehum Harbour in Sidney aboard a 38' Meridian. There was a large 100'+ private motor yacht anchored near the Harbour entrance off our port bow. One of the local crab boats was approaching on our port side and heading for the gap between us and the anchored yacht. Despite me blowing the danger signal, 5 short blasts, the crab boat crossed our bow. In order to clear us safely, he had to alter course to port and cross the bow of the anchored yacht.

The major point to remember is always keep checking that the give-way vessel is taking action to keep clear and if not, you must take action to avoid a collision. Never assume that the other boater knows the rules or will follow the rules correctly.

TIME BY SHIP'S BELL

In the days before clocks became a common item on board, a vessel would carry a chronometer. It was the duty of one person to strike the ship's bell to indicate the time and the changes of the watch. Eight bells would signal the end of the watch.

The bell strikes would be as follows:

0000 8 bells	1200 8 bells	0600 4 bells	1800 4 bells
0030 1 bell	1230 1 bell	0630 5 bells	1830 5 bells
0100 2 bells	1300 2 bells	0700 6 bells	1900 6 bells
0130 3 bells	1330 3 bells	0730 7 bells	1930 7 bells
0200 4 bells	1400 4 bells	0800 8 bells	2000 8 bells
0230 5 bells	1430 5 bells	0830 1 bell	2030 1 bell
0300 6 bells	1500 6 bells	0900 2 bells	2100 2 bells
0330 7 bells	1530 7 bells	0930 3 bells	2130 3 bells
0400 8 bells	1600 8 bells	1000 4 bells	2200 4 bells
0430 1 bell	1630 1 bell	1030 5 bells	2230 5 bells
0500 2 bells	1700 2 bells	1100 6 bells	2300 6 bells
0530 3 bells	1730 3 bells	1130 7 bells	2330 7 bells

The strike for the hours were done as two quick strokes so six bells would sound like dingding, dingding, dingding and likewise seven bells would be:
dingding, dingding, dingding, ding

Some mariners prefer to have a clock that strikes the bells. A handy skill to be able to tell the time without looking at the clock.

NAVIGATION

Anyone who works or plays on the water needs to know how to read a chart, determine their position, and use the Tide and Current Tables. It will be of benefit to everyone who operates a sail boat, power boat, kayak or fishing boat. The Coastal Navigation course is offered in a hard-copy home-study format giving you the benefit of learning in your home environment. There is no pre-requisite required to enrol in this course. Successful completion of the course leads to Canadian Yachting Association Certification.

The course teaches you:

- the symbols and conventions on Canadian Hydrographic charts
- the characteristics for lighted aids and the buoyage system
- the publications and instruments required for prudent navigation the purposes of Notices to Mariners
- to use the Tide Tables to find times and heights at reference and secondary ports
- to use the Current Tables to find direction and rate of current at reference and secondary stations
- how to convert courses and bearings between true, magnetic and compass
- check compass deviation by means of a transit
- plot a dead reckoning position on a chart and allow for the effect of current and leeway to plot the estimated position
- determine a heading which counteracts known current and leeway
- plot a position by two or more bearings at one time
- bearings at different times
- one bearing and a transit
- bearing and a distance.

TAKING COMPASS BEARINGS

When taking bearings from a moving vessel, take the bearings off each side one after the other. Because of the vessel movement, the bearings to the side will change most quickly. By taking these bearings together you will improve the accuracy of your fix.

TIDE OR CURRENT?

Tide is the vertical motion of the water caused mainly by the gravitational effects of the sun and the moon. When there is no vertical motion this is referred to as stand. Current, or more correctly, tidal stream is the horizontal flow of the water. The current coming in from the sea is called a flood current while the current flowing out to sea is the ebb current. When there is no horizontal movement this is referred to as slack, slack water or the turn.

“Commonly used expressions like “flood tide” and “ebb tide” should be avoided, as they confuse the horizontal motions of tidal currents with the vertical displacements of the tide”
Oceanography of the British Columbia Coast – Richard E Thomson Published by Department of Fisheries and Oceans.

For further information see the [Home Study Coastal Navigation Course](#).

One question many boaters ask is how are the Tables arranged? One of the commercial books is arranged in alphabetical order while the Official Tables produced by the Canadian Hydrographic Service are arranged in order from seaward. They start at the western entrance of Juan de Fuca Strait, go down into Puget Sound and then northwards through the Strait of Georgia.

A *Reference Port* is where the Tidal height has been measured such as Fulford Harbour which is the Reference Port of the Southern Gulf Islands. There are tables of corrections to the *Secondary Ports*. A *Reference Station* gives the details of the currents and similarly there are tables of corrections to the *Secondary Stations*.

It is critical to understand that the time of low water stand and the time of the turn to flood do not normally occur at the same time. In the Sidney area, the difference of the time of low water stand and the turn to flood in Sidney Channel can be 1 hour and 40 minutes. Likewise the time of high water stand and the turn to ebb do not correspond.

By using the Tide and Current Tables correctly you will be able to predict the depth at low and high water e.g. when anchoring, and be able to use the current to your advantage.

ANCHORING

To anchoring quietly, first discuss with the crew all the steps and where the anchor will be lowered. Crew lowers anchor just into the water as skipper brings the boat into the wind. When the skipper has brought the bow over the desired anchor location engage astern propulsion. When the crew notices the wave around the anchor has stopped, lower the anchor quickly to the bottom. Pay out the desired amount of line and cleat off the anchor rode. The vessel will seldom reverse in a straight line. When the rode becomes taut, the vessel will swing back into the wind. This confirms to the skipper that the anchor is holding. Slowly increase power to dig the anchor in while watching two objects in line (a range) abeam. If the objects stay in line you are not moving and the anchor is set. This process can be done without any talking.

TURNING IN CONFINED QUARTERS

This technique applies to single inboard engine vessels with a straight shaft. Backing and filling is a technique to turn a vessel around in confined waters.

"There is no need to shift the wheel when operating astern. The vessel is not moving astern and the rudder only has the prop suction current flowing across it and has little, if any effect. I have seen many boaters get into trouble by wasting time shifting the rudder each time they operate astern. Many boaters are used to this technique because they are familiar with outboards or inboard/outboards. When they move to an inboard-powered vessel they tend to bring this habit with them. One method to demonstrate the P effect is to go astern while moving ahead with the rudder amidships. The stern will swing (walk) despite the rudder.

An easier way to back and fill is simply place the wheel opposite to the side the vessel backs to and leave it. The objective is to continue the swing produced by the rudder while operating ahead using the P effect of the prop to move the stern when operating astern."

D. Bruce Stott
President
Gulf Islands Cruising School Ltd.
Yachting Magazine Nov. 2004
Letters to the Editor

PLEASURE CRAFT OPERATORS CERTIFICATE

The Pleasure Craft Operator Card, also known as a PCOC, is proof of competency under the Competency of Operators of Pleasure Craft Regulations.

As of 2002, any person operating any powered recreational boat less than 4 metres (including personal watercraft) must provide proof of competency.

As of September 15, 2009 any person operating any powered recreational boat must have proof of competency.

Exemptions:

Proof of previous training (until 03/31/1999) such as Canadian Power Squadron or Canadian Yachting Association courses.

Grace period of 45 days for non-resident of Canada operating foreign boats without a recognized Competency Card.

In addition to carrying Proof of Competency aboard, you are also required to carry personal picture identification.

How to obtain your [Pleasure Craft Operator Card](#):

Obtain and study a copy of the free Safe Boating Guide, and then write the exam.

As an alternative, you may write the exam as part of your Basic Cruising or Basic Powerboat course.

RESTRICTED OPERATOR CERTIFICATE (ROC-M)

Anyone operating a fixed or portable marine radio in a pleasure boat is required by law to have a Restricted Operator Certificate (Maritime).

Note: Operating a VHF radio without an operator certificate may result in a fine.

Users can obtain the Restricted Operator's Certificate (Maritime) by taking the [Maritime Radio home-study course](#). After studying the manual you will need to make an appointment with a Recognized Examiner to write the exam and complete the certification.

The exam for the Radio Operator's Certificate (ROC-M) includes the DSC (Digital Selective Calling) endorsement.

The manual, 98 pages, comes with a CD that includes a video of a simulated distress situation, a VHF simulator which allows you to familiarize yourself with the operational concepts of a DSC radio, exercises to assist you in learning the phonetic alphabet, audio tracks of various procedures and two practice exams which are similar to the final exam.

Key Benefits

Provides the knowledge you need to operate your VHF radio
Teaches you the emergency procedures
Teaches the phonetic alphabet and proper operating phrases

FAMILY BOATING

Boating together as a family is an excellent way to connect with each other, enjoy nature, and get some exercise.

When taking your family on board, assign everyone a job. There will be a captain, first mate, galley cook, boat cleaner, etc. A book with the duties of each position is useful so the "crew" can refer to it if needed.

Choose a destination with a variety of activities to give everyone an opportunity to enjoy some time away from the boat.

A cruising [DVD](#) covering destinations in the Canadian Gulf Islands is a useful planning tool for boating.

When invited as a guest by family or friends on a boating excursion, there are ways to make things easier for the host or hostess.

A great goodwill gesture is to bring food along. It is helpful to be aware of space on board such as size of icebox or fridge when deciding on your contribution to meals. For instance, for a day outing a picnic lunch may be in order.

Offering to chip in for fuel will be appreciated by the boat owner.

Once the trip is complete, helping clean up is another goodwill gesture. There may be many jobs such as taking the trash, washing off the boat, and helping organize the equipment.

Help out wherever you can, being sure to ask first.

PACKING FOR BOATING

A backpack or soft bag to pack belongings is useful on boats where space is usually limited.

To assist children, a checklist is helpful to ensure they have the clothes needed for a boating trip. Following is an example of gear to include either for a day trip or a longer boating vacation.

Suggestions:

Two pairs of shoes - one for the boat, one for ashore
hat
toque
mitts or gloves
jogging suit
shorts
pants
warm jacket preferably with hood
short and long sleeved t-shirts
socks
sunglasses
swim suit
rain jacket and pants
rain boots
pj's, toiletries, underwear - for overnight trips

Once a list for a child's gear is established, it can be used whenever a boating trip is planned.

Sleeping bags, pillows, and towels are usually required for overnight trips.

TWO BURNER COOKING

Two burner galleys are common on boats. Camping, RVing, or small kitchens may require preparing meals on two burners.

Menu planning is essential when cooking on a two burner stove. To begin, make a weekly menu plan for breakfast, lunch and dinners. Once you have a menu, prepare a shopping list to purchase the necessary supplies.

For boating, camping and RVing, a menu will help in storing the last to be used items first for ease of finding ingredients at time of meal preparation.

I like to plan a menu to cook once, eat twice as much as possible. For instance, boiled potatoes may be on your menu for dinner. Cube potatoes before cooking and make extra. Cool and refrigerate any left over potatoes to use the next day to make potato salad, corned beef hash, browned with onions for the next dinner, or added to an omelet for breakfast.

Eggs can be used in many ways. Place several eggs in a pot of water, bring to a boil, remove the amount needed for breakfast, cooked to your liking. Allow the remainder to be hard boiled, cool and refrigerate. The hard boiled eggs can be used for deviled eggs, egg sandwiches, or sliced and added to a salad.

A deep fry pan with lid and a double boiler with lid can be used on two burners to prepare a variety of meals. I prefer stainless steel pots. Here is an easy meal prepared on two burners.

EASY GROUND BEEF AND RICE

What you need:

- 1 lb. hamburger
- 1 or 2 cans cream of mushroom soup
- 1 cup rice

Directions:

Brown ground beef in fry pan until fully cooked.

Remove fat from pan.*

Add the cream of mushroom soup, stir often and cook until soup is hot and bubbly.

Cook rice on second burner according to package directions.

Spoon the ground beef and mushroom mixture over cooked rice.

A green salad or coleslaw, and rolls will add to an easy meal.

Variation: Serve over cooked noodles instead of rice.

*Tip - Keep an empty tin can handy to hold fat drained from cooking.

A double boiler has several uses. Heat water in the bottom pan. Place the second pan on top and use for keeping pancakes warm while scrambling eggs, heating a can of vegetables in the top while potatoes are cooking in the bottom, or warming a sauce or gravy.

By keeping it simple, a variety of tasty meals can be prepared on two burners. Here is an email series for [Easy Family Boating Recipes](#)

A DAY AT SIDNEY SPIT

My sister was visiting from out of province and we treated ourselves to an afternoon at Sidney Spit. Arriving by ferry from Sidney, we spent our time beach combing, relaxing, and exploring the island on the hiking trail.

Unfortunately, my sister scraped her foot. The incident sparked a conversation on the items we would have found handy to have in our pack. Whether arriving by ferry or via your own vessel, here is a suggested list of "what to bring".

First Aid Kit

Water

Sunscreen

Hat

Sweater or coat

Sunglasses

Towel

Wet wipes

Snack

For children - shovel and sand castle building containers

Plastic bags to carry out your trash - no garbage containers on the island

The list applies anytime you are leaving your boat and going ashore to explore at anchorages or marinas.

Sidney Spit is a popular destination, so much so, we were unable to board the ferry we wanted back to Sidney as it was full to capacity. We waited 1 hour 45 minutes for the next ferry. This incident gave us time to further consider our "what to bring" list for our next visit to the island.

A seasonal dock and moorings are available for your own vessel.

POWERBOAT COURSES

- [Introduction to Boating](#) - Introduces novice boaters to safe practices in preparing to leave the dock, while underway, and when returning to dock.
- [Basic Outboard](#) - At the completion of the Basic Outboard Standard you should be able to operate safely in familiar waters as skipper of a boat under 6 metres and powered by an outboard engine under 55 kW (75 hp).
- [Basic Powerboat](#) - At the completion of the Basic Power boat Standard you should be able to operate safely in local waters as skipper of a boat over 6 metres and powered by an engine over 55 kW (75 hp).
- [Intermediate Powerboat](#) - At the completion of the Intermediate Powerboat Standard you should be able to operate safely as a skipper of a power boat between 8 - 12 metres with inboard engine(s) by day in moderate wind and sea conditions.
- [Coastal Navigation](#) - A home-study hard copy course giving you the benefit of learning in your home environment. Successful completion of the course leads to Canadian Yachting Association Coastal Navigation certification.

CRUISING SAILBOAT COURSES

- [Basic Crew](#) - At the completion of the Basic Crew Standard you should be able to act as competent crew while cruising safely in familiar waters aboard a sloop rigged keel boat of 6 - 10 metres in moderate wind and sea conditions by day.
- [Basic Cruising](#) - At the completion of the Basic Cruising Standard you should be able to cruise safely in familiar waters as both skipper and crew of a sloop rigged keel boat of 6 to 10 meters in moderate wind and sea conditions by day.
- [Intermediate Cruising](#) - At the completion of the Intermediate Cruising Standard you should be able to cruise safely in familiar waters as both skipper and crew of a sailing boat of 8 - 12 meters in moderate wind and sea conditions by day. Emphasizes on-the-water skills at a level acceptable for bare boat chartering.
- [Advanced Cruising](#) - At the completion of the Advanced Cruising Standard you should be able to act safely as skipper and crew of a sailing boat of 8 - 15 metres, operating by day and night in coastal or inland water in any weather.

OTHER RESOURCES

[E-Lessons](#) – Types of Boats, Anchoring
[Boating ebooks](#)

BUSINESS RESOURCES

The cover graphic for the report was created using [eCover Software](#) and [GIMP](#), a freeware graphic program.

The report was composed and converted to a PDF using [OpenOffice](#)

The autoresponder to deliver the report is [GetResponse](#).

[XsitePro2](#) is used to create our Web site.

[HostPapa](#), 100% [green hosting](#), hosts our Web sites.

[Small Reports](#) – writing small reports as a way to start an on-line business.