

INLAND POWER YACHT SKIPPER

STUDENT TEXTBOOK

TABLE OF CONTENTS



Safety	1	IALA Buoyage & Pilotage	26	Passage Planning	51
- Basic Safety Rules	1	- Lateral Marks	26	- Planning Your Passage	51
- Safety Equipment	2	- Cardinal Marks	27	- Course Shaping	52
- Mandatory Equipment	3	- Buoyage on Charts	28	- Navionics™	53
- It Is Good To Have	4	- Lights	28	- Wheel of Usefulness	54
- Fire Fighting	5	- Colours & Shapes	28		
- Operating Extinguisher	5	- Sounds	28	Launching & Recovering	54
- First Aid Kit	6	- Preferred Channel Marks	29	- Boat Launching	54
		- Pilotage - Sectorised Lights	30	- Boat Recovering	55
Parts of a Boat	7	- Pilotage - Clearing Bearings	30		
- Boat's lights	8	- Pilotage - Leading Bearings & Marks	30	Electronics	56
- Masthead light & Stern light	8			- Know Your System	56
- Parts of a Sailboat	9	Exercise 1	31	- GPS	56
- Types of Hulls	10	Collision Preventing Rules	32	- Depth Sounder	56
- Displacement Hull	10	- Fundamental Rules	32	- Electronic Log	56
- Planing Hull	10	- Risk of Collision	32	- Electronic Compass	57
- Common Hull Shapes	10	- Sea Sailing Rules	33	- iPad / Tablet	57
		- Shapes And Sounds	34	- Chartplotter	57
Operating the Engine	11			Environmentally Responsible Sailing	58
- Outboard Engine	11	Handling Yacht Under Power	36	TEST QUESTIONS	59
- Kill Cord	11	- Wheelhouse	36	Operational Checklist	60
- Cooling System	11	- Gears	37	Exercise 2	62
- Start Procedure	12	- Inertia	37	Topics Checklist	63
- Stop Procedure	12	- Prop Kick	37		
- Inboard Engine	13	- Turning Capability	38		
- Jet Drive	13	- Man Overboard Procedure	39		
- Propellers Rotation	14	- Turn for MOB	39		
- Engine Trim	14	- Alternative Turn for MOB	40		
- Using Trim Tabs	14	- Recovering MOB	40		
		- Taking Current Into Account	41		
CEVNI	15	- Dock Lines	42		
- Useful Signs	15	- Fenders	43		
- Berthing Rules	16	- Types of Berths	43		
- Sound Signals	16	- Leaving the Dock	44		
- Passage Recommndatory Signs	16	- Arrival at the Dock	45		
- Entering Sluices and Canals	17				
- Selected Prohibitory Signs	17	Meteorology	46		
- Selected Mandatory Signs	17	- Weather Forecast	46		
- Selected Restrictive Signs	18	- Formation of a Depression	47		
- Selected Recommndatory Signs	18	- Types of Clouds	47		
- Selected Informative Signs	18	- Beaufort Scale	48		
- Marking of Waterways	19				
- Limits of Waterways	19	Anchoring	50		
- Bifurcation of the Fairway	20	- Dropping the Anchor	50		
- Main Fairway Direction	21	- Swinging Circle	50		
- Land Signs Indicating the Position of the Fairway	22	- Raising the Anchor	50		
- Marking of Cross-Overs	23				
- Marking of Danger Points & Obstacles	24				
- Vessel's Priority	25				

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Course Content



The ISSA Inland Power Yacht Skipper is a course addressed to candidates that wish to skipper power driven yachts up to 15m LOA. No prior experience is required. The aim of the course is to provide the candidates' with knowledge allowing them to competently take on the duties of a skipper on board a yacht, during the day on inland waters and up to 3 NM from shelter in good and moderate weather conditions.

In order to complete the course, student needs to present intermediary understanding of the given topic and almost always and with

confidence perform a given task correctly during the day, and in good as well as moderate weather conditions.

Upon completion, the students are eligible to undertake the ISSA Boat Master or ISSA Inshore Skipper Course

Tuition is provided by experienced and highly skilled ISSA Instructors using a combination of practical instruction and theoretical teaching. Student learning is enhanced using a variety of handouts and teaching aids with correct student/instructor ratios.

THEORY TOPICS

Yacht construction
Engine handling
Lines and springs
Handling fenders
Anchoring
Safety
Crew management
Handling yacht under power
Man over board
CEVNI regulations
Pilotage
Collision regulations
Navigational aids
Navigating in restricted visibility
Electronic-based navigation
Passage planning
Logbook
International signaling code
Meteorology
Other skills (ecology, social skills)
Pulling a skier or an object*

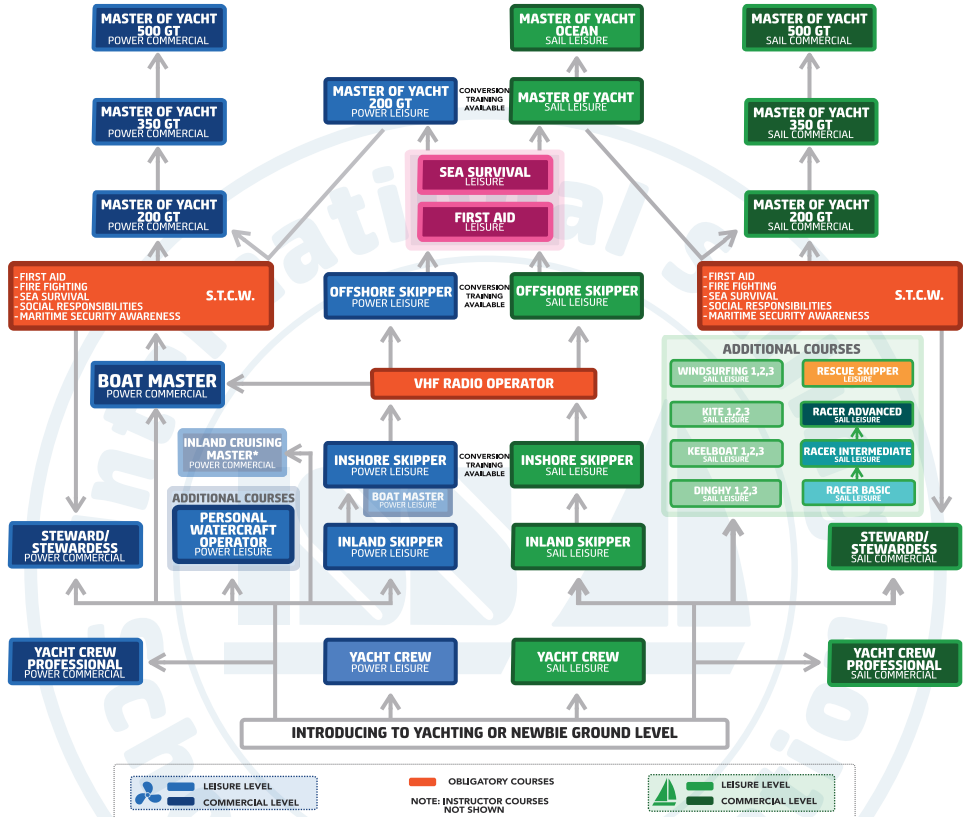
PRACTICAL TOPICS

Basics of safe onboard operations
Safe operation of elementary yacht's systems
Water supply system
Fuel supply system
Elementary yacht sailing equipment and how to use it
Operating the inboard engine
Inboard engine troubleshooting
Operating the outboard engine
Outboard engine troubleshooting
Knots
Lines handling
Safe fenders handling
Safety issues when using an anchor
Anchoring with the crew
Safe anchoring
Handling emergency situations
Safety briefing
Crew management in various situations
Safe handling of the yacht under power
M.O.B. approach under power
Recovering M.O.B.
Basic pilotage rules and sources of information on inland waters
Basic passage planning rules
Practical skills in meteorology
Safety procedures for pulling a skier or an object*

* PULLING A SKIER OR AN OBJECT might be considered an additional module to the ISSA Inland Power Skipper based upon the ISSA accredited school's discretion.



ISSA Competence Tree



ISSA LEVEL	MAX LOA	TIME OF NAVIGATION	DISTANCE FROM SHELTER
YACHT CREW	N/A	N/A	N/A
PWC OPERATOR	N/A	DAYTIME	5 NM offshore
INLAND SKIPPER	15 m	DAYTIME	inland waters + 3 NM offshore
BOAT MASTER*	12 m	DAYTIME	10 NM offshore
INSHORE SKIPPER	16 m	DAY + NIGHT	20 NM offshore
OFFSHORE SKIPPER	24 m	DAY + NIGHT	60 NM offshore
MASTER OF YACHT	∞	DAY + NIGHT	150 NM offshore

ISSA LEVEL	MAX LOA	TIME OF NAVIGATION	DISTANCE FROM SHELTER
YACHT CREW	N/A	N/A	N/A
INLAND SKIPPER	15 m	DAYTIME	inland waters + 3 NM offshore
INSHORE SKIPPER	24 m	DAY + NIGHT	20 NM offshore
OFFSHORE SKIPPER	24 m	DAY + NIGHT	80 NM offshore
MASTER OF YACHT	24 m	DAY + NIGHT	∞
MASTER - OCEAN	∞	DAY + NIGHT	∞

ISSA LEVEL	MAX LOA	TIME OF NAVIGATION	DISTANCE FROM SHELTER
YACHT CREW	N/A	N/A	N/A
STEWARD/DESS	N/A	N/A	N/A
INLAND CRUISING MASTER*	∞	DAY + NIGHT	inland waters + 3 NM offshore
BOAT MASTER	15 m	DAY + NIGHT	20 NM offshore
MASTER 200 GT	∞	DAY + NIGHT	150 NM offshore
MASTER 350 GT	∞	DAY + NIGHT	∞
MASTER 500 GT	∞	DAY + NIGHT	∞

ISSA LEVEL	MAX LOA	TIME OF NAVIGATION	DISTANCE FROM SHELTER
YACHT CREW	N/A	N/A	N/A
STEWARD/DESS	N/A	N/A	N/A
MASTER 200 GT	∞	DAY + NIGHT	160 NM offshore
MASTER 350 GT	∞	DAY + NIGHT	∞
MASTER 500 GT	∞	DAY + NIGHT	∞

* NOTE: BOAT MASTER LEISURE & INLAND CRUISING MASTER ARE AVAILABLE ONLY TO CERTAIN REGIONS OF THE WORLD

Safety



Safety
comes
FIRST
on all ISSA
courses

BASIC SAFETY RULES

Hazardous situations on water happen rarely but frequently enough to make training for them meaningful. Here are some basic rules to follow.

Do's & Don'ts



Always keep "one hand for the boat"



Wear proper outfit, especially shoes



Always wear life protecting gear



Never run on board



Avoid walking bare feet

As a certified Inland Power Yacht Skipper, you are in command and you are responsible for the safety of every single person aboard, including yourself.

While being in charge of a vessel under way, the Inland Power Yacht Skipper, the helmsman or any other person performing any crew tasks **MUST NOT** be under the influence of alcohol nor any other drugs.

SAFETY EQUIPMENT

Life Jackets: You are obliged to always have a sufficient number of the SOLAS Life Jacket aboard. Life jacket keeps the head of an unconscious person above water.

There must be always at least **ONE LIFE JACKET PER PERSON** aboard. Life Jackets must be fitted with reflective tapes, whistle, and a flashlight. You can choose between solid/rigid ones and inflatable life jackets. However, keep in mind please that the inflatable ones must be serviced each year.



Personal Floatation Device (PFD): It is more convenient to wear, thus more popular and often used in water sports activities. However, **THIS IS NOT AN ALTERNATIVE TO THE LIFE JACKET.**

PFD provides only floatation features. It requires you to be conscious and able to swim as in some cases it might not support the whole weight of your body. PFD will not keep the unconscious person's head above water.

- Always maintain and service your safety equipment on regular basis.
- Always make a safety briefing for the crew.
- Make sure the crew knows the location of the safety equipment.
- Make sure the crew knows how to use the safety equipment.

For more information go to chapter:
Operational Checklists

Safety



Distress signaling equipment is used to attract attention in case of an emergency at sea. There are three different types of pyrotechnics used as distress signals:

Red distress rockets - most effective during the night. They go up to 300m and should be fired pointing downwind.



ALWAYS FIRE DOWNWIND
DO NOT USE ROCKETS NEAR HELICOPTERS

Red hand flares - used mainly when other vessels are in the vicinity. They attract more attention if you wave them. They get extremely hot.



ALWAYS POINT DOWNWIND
DON'T LOOK DIRECTLY ONTO BURNING FLARE

Orange smoke - most effective during daytime and most visible to aircraft. It burns for 3 minutes and apart of attracting attention, it shows the direction of the wind.



White hand flares - are not distress signals. They are used to attract attention in order to avoid collision at night.



All the pyrotechnics have expiry dates. Make sure your equipment is always up to date.

Other safety equipment may vary across the vessels. On the following images you'll find items to be found on a well equipped yacht. **Always check your safety equipment before sailing.**

MANDATORY EQUIPMENT



Fire extinguisher



Life jacket for EVERY PERSON on board



Ring buoy



Boat hook



Paddles

IT IS GOOD TO HAVE

M.O.B.



Horseshoe buoy

FIRE



Fire blanket

GENERAL



Toolbox



Electric bilge pump



Manual bilge pump



Spare anchor



Handheld VHF Radio



Waterproof flashlight
+ extra batteries



Extra horn



Radar deflector



Magnetic compass



Extra rope
At least 2x boat's length long







First Aid Kit

Always check your safety equipment
before sailing

Safety

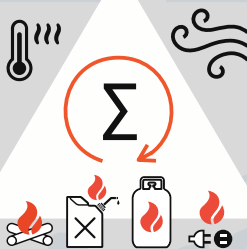
FIRE FIGHTING

There are different classes of fire (depending on the fuel that is burning) and different types of fire extinguishers. It is important to use the right extinguisher for the job.

		WATER	CO ₂	POWDER
Solids		WATER		POWDER
Liquids			CO ₂	POWDER
Gases				POWDER
Electrical			CO ₂	POWDER

Fire triangle shows the necessary ingredients for most fires. It illustrates the three elements a fire needs to ignite:

Fuel + Heat + Air

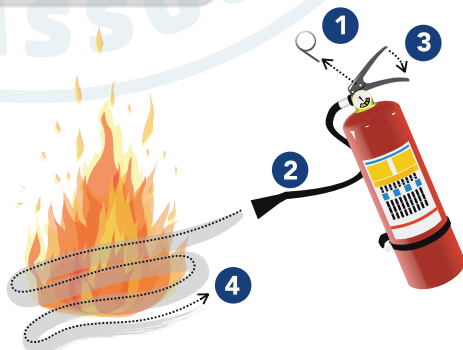


Powder extinguisher is the best one to use aboard small vessels.

OPERATING EXTINGUISHER

Every extinguisher is used in the same way. However always check the instructions written on the fire extinguisher.

1. Pull the safety pin.
2. Aim the nozzle at the base of fire.
3. Squeeze the handle.
4. Sweep the nozzle side to side.



FIRST AID KIT

It is important to have a comprehensive first aid kit on board every boat. Your first aid kit should include the following as a minimum:



Eye drops



Allergies



Anti-pain



Diarrhea



Constipation



Stomach pain



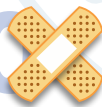
Bandage & Scissors



Sterile compresses



Gloves (sterile & regular)



Wound stickers



Stretch mesh / net



Aseptic + Antiseptic + Burns



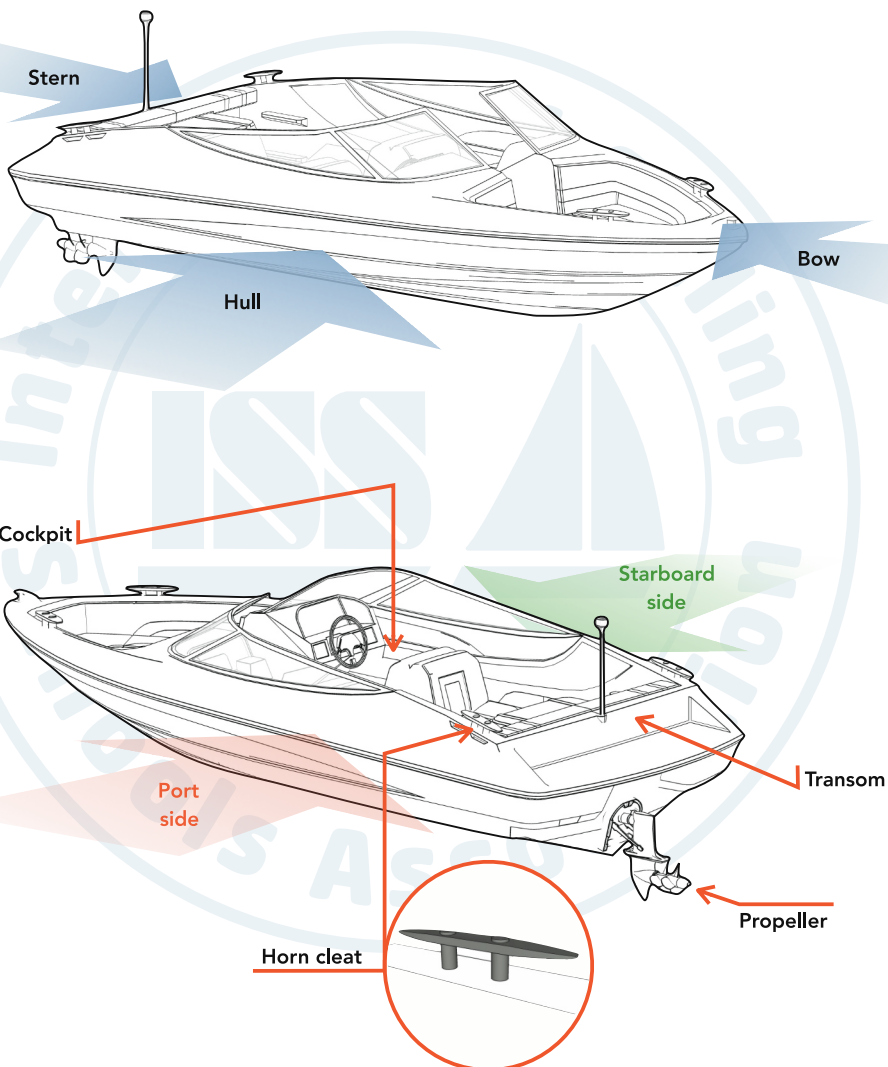
Thermometer



Rescue Mask

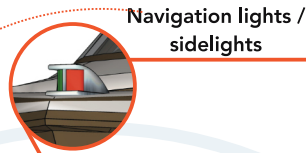
Medicines have expiry dates. Make sure your First Aid Kit is always up to date.

Parts of a Boat

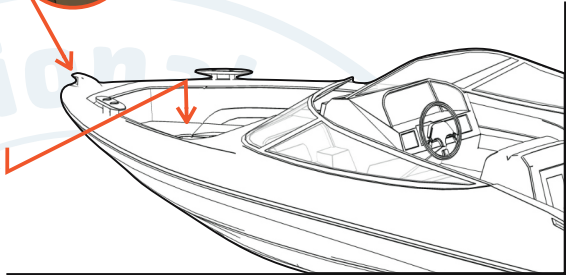


BOAT'S LIGHTS

A big vessel may not always see you, even if you have the right of way - be alert and ready to give way to avoid collision.



Deck



NAVIGATION LIGHTS EXPLAINED

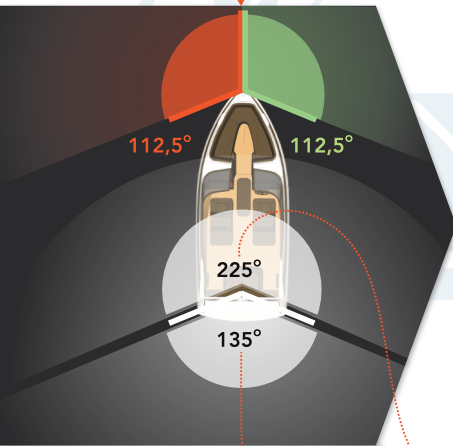
In ancient times central rudder was too difficult to mount.



So, it was mounted on the right side. Why on the right? Because most of us are right handed. Such boats would always moor with their left side to pier in order not to damage the rudder. So:

Left = STOP = Port = RED

Right - GO - Steer = GREEN

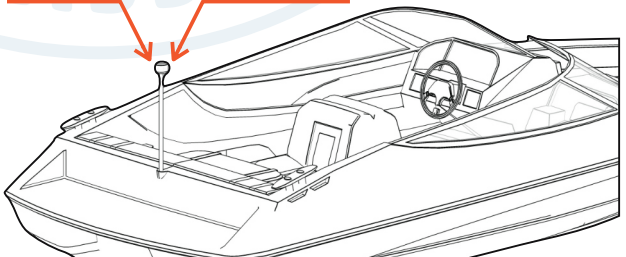


Stern light

Masthead light

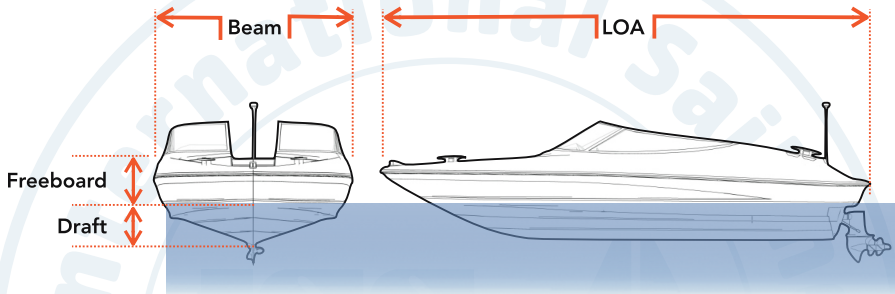
MASTHEAD LIGHT & STERN LIGHT

Both these lights are white and together they form a full, 360° circle. Nevertheless, those are still sector lights and on larger vessels the stern light might be closer to stern on a separate mount.



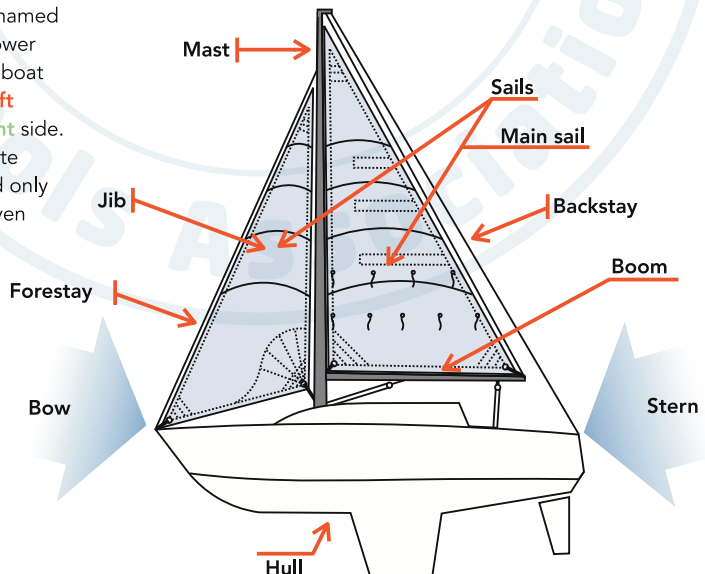
Parts of a Boat

LOA (Length overall) is the length of a vessel's hull measured parallel to the waterline usually on the hull alone (so excluding railings or anchors or other fittings added to the hull. It is the most commonly used way of expressing the size of the vessel. LOA is used for calculating the cost of a marina berth.



PARTS OF A SAILBOAT

Most of the parts are named the same as on the power boat. Lights of the sailboat are also **red on the left** and **green on the right** side. However the 225° white masthead light is used only when the vessel is driven by its engine.



TYPES OF HULLS

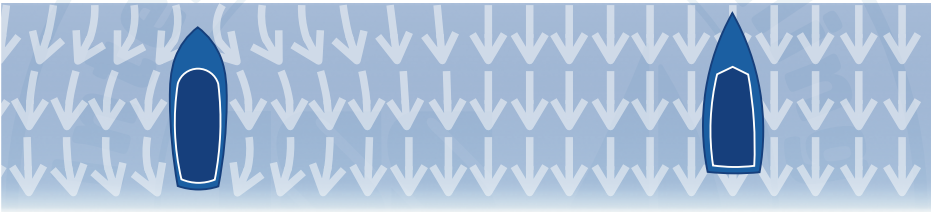
The hull is the body of the vessel, its shell. All hulls are designed to do one of only two things: displace water (**Displacement hulls**) or ride on top of it (**Planing hulls**). There are also hulls capable of developing a moderate amount of dynamic lift while most of the vessel's weight is still supported by buoyancy (**Semi-displacement** or **Semi-planing**).

DISPLACEMENT HULL

This type of hull is supported exclusively by buoyancy. Sailing boats, slow-moving boats, and large ships have this kind of hulls. They move lower in the water, pushing or displacing it.

PLANING HULL

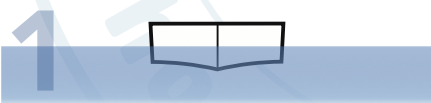
Boats with planing hulls are designed to slide on top of the water at higher speeds. Smaller, faster boats, like powerboats or personal watercraft, typically have these hulls.



COMMON HULL SHAPES

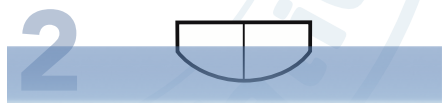
Sailing vessels come in a wide variety of shapes and sizes, however, there are only four most common hull shapes:

Flat-bottom



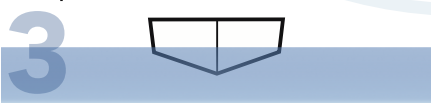
Boats with these hulls are very stable. They are great, great for fishing and other uses on calm waters.

Round bottom



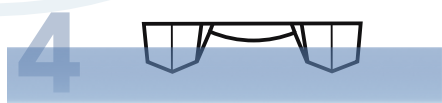
Typical displacement hulls. Designed to move smoothly through the water with little effort. Less stable - can capsize more easily.

V-Shaped



Typical planing hulls. Most common type of hull for powerboats. They can move at higher speeds and provide a smoother ride through rough water.

Multi hull



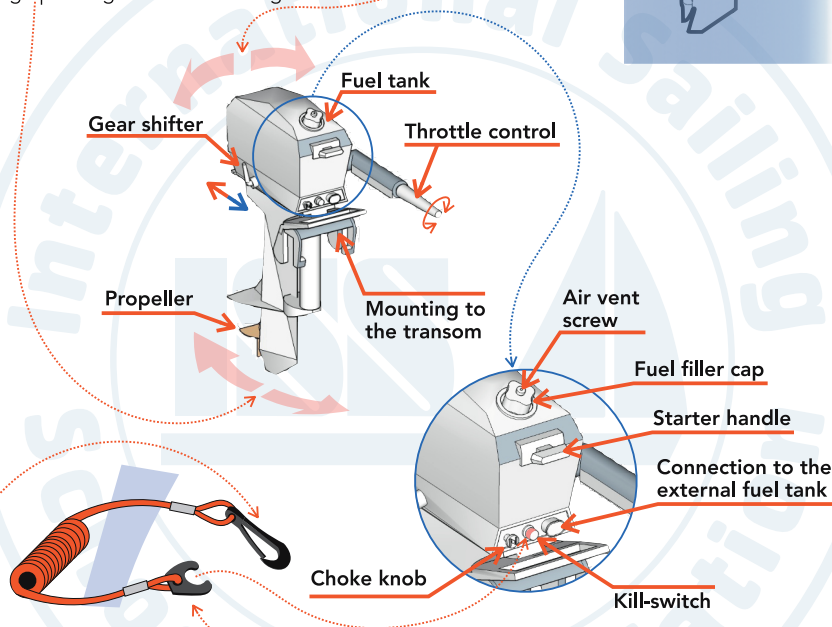
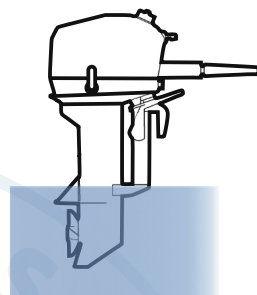
These can be either planing or displacement hulls (depending on the shape of the hulls). Some of the most stable on the water. There can be more than two hulls.

Operating the Engine

OUTBOARD ENGINE

An outboard engine is a self-contained unit that includes engine, gearbox, propeller and sometimes a fuel tank. It is designed to be mounted to the boat's transom.

Apart from propulsion, outboard engine provides also **steering** and **trim control**, as it allows to control the direction of thrust through pivoting over its mountings.

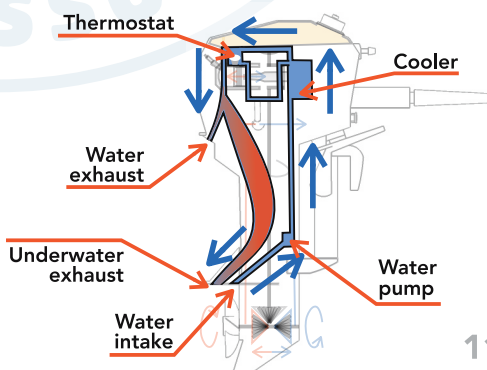


KILL CORD

It is also known as the safety lanyard and it cuts off electricity if detached from the kill-switch, thus shutting down the engine. Kill cord should be red and has a **clip** to attach to your clothing or to loop around your wrist and a **plastic fork** that must be attached to the kill-switch. If the fork is not attached, the engine won't start.

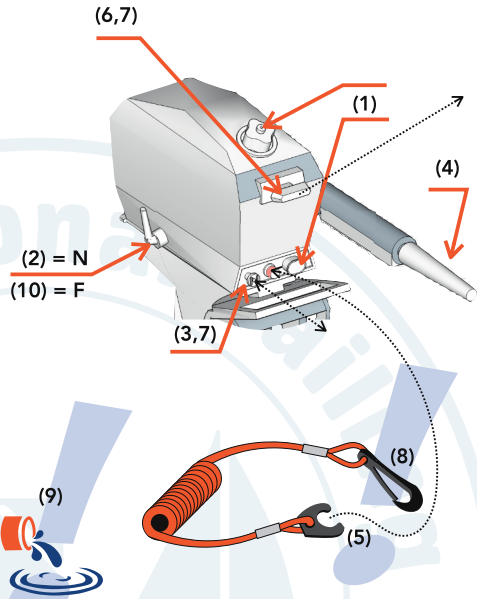
ALWAYS ATTACH THE KILL CORD TO THE DRIVER'S BODY. IF HE FALLS OVER BOARD, THE ENGINE WILL STOP.

COOLING SYSTEM



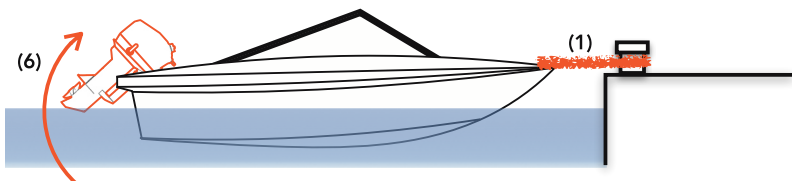
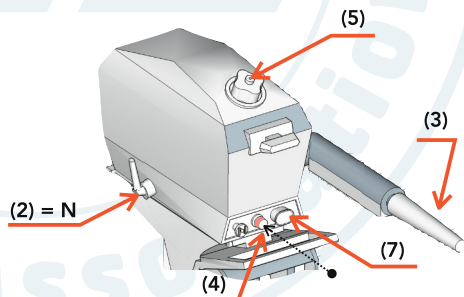
START PROCEDURE

1. Check the amount of fuel and if it is connected to the engine (or in case of using the engine tank, check the amount of fuel and open the air vent screw).
2. Put in neutral gear.
3. Open the choke (at the first start of the day).
4. Give a small amount of throttle.
5. Kill cord is attached to the kill switch but not yet on the wrist.
6. Check you are clear to pull the starter handle, use left hand to pull.
7. Pull starter cord once. Pull it again if the engine did not start at the first go. (If it was the first start of the day, **SWITCH OFF THE CHOKE**)
8. **Attach the KILL CORD to yourself.**
9. **Always make sure that the cooling water is coming out of the engine's cooling system.**
10. **Always make sure the KILL CORD switches off the engine.**



STOP PROCEDURE

1. Make sure you are safely moored.
2. Check engine is in neutral.
3. Check the throttle is idling.
4. **Push the KILL-SWITCH** until engine stops or disconnect the kill cord.
5. In case you're using the built-in engine fuel tank, close the air vent screw.
6. Raise engine to avoid grounding of the propeller.
7. In some cases, you might also need to disconnect the fuel.



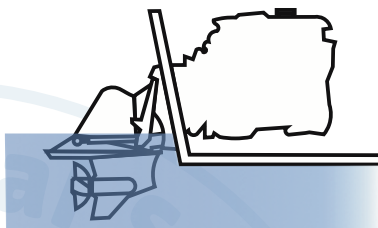
Operating the Engine

INBOARD ENGINE

Stern-Drive Inboard Engine

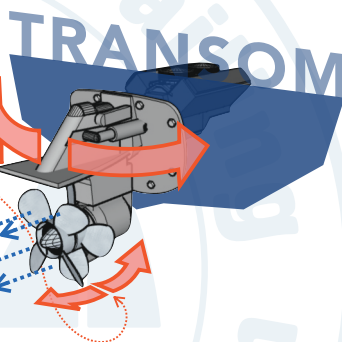
Apart from the fixed shaft and outboard engines, stern-drive inboard engines are quite common on larger power boats. They combine features of both the fixed shaft and outboard engines.

The engine is mounted inside the boat but a drive unit is attached through the transom. The drive unit operates as the lower part of the outboard engine providing **thrust, steering and trim control**.



Inboard engines also use outboard water cooling systems. It is important to maintain the system to ensure the engine does not overheat.

Always make sure that the seawater is coming out of the exhaust after starting the engine.



Fixed Shaft Inboard Engine

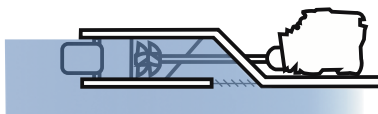
This is a conventional inboard gas or diesel engine. It is mounted inside the hull and the propeller is driven through a fixed shaft.



Boat with fixed shaft engine is steered solely by means of its rudder making it less maneuverable than in case of the outboard engine or the stern-drive one. That is unless there are two fixed shaft engines on the vessel. Maneuvering the boat with two fixed shaft engines enables you to put one engine into forwarding gear, the other into reverse and spin around your axis.

JET DRIVE

Jet drives propel the boat by forcing a high pressured water stream out of the boat's aft. Directing this stream steers the vessel.



Jet drives can propel a small personal watercraft (jet ski) and much larger yachts. It is designed for shallow water conditions and can come in both the inboard or the outboard version.

PROPELLERS ROTATION

Most single engine power boats have their propellers rotating clockwise.

In case of two engines the propeller rotate opposite to each other.



Always **check the direction** your propeller revolves.



ENGINE TRIM

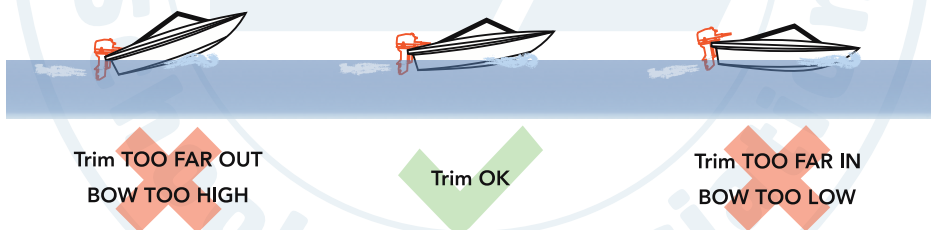
Outboards and stern-drives provide trim control. You trim your drive for grounding protection, better steering, visibility and wave-handling purposes and also to counterbalance weight in the bow. Good trim increases stability, fuel efficiency, and safety. Most boats perform best when running parallel with their waterline.

TRIM UP (IN) = BOW UP

Trimming in too far can cause problems with hull pounding and visibility forward.

TRIM DOWN (OUT) = BOW DOWN

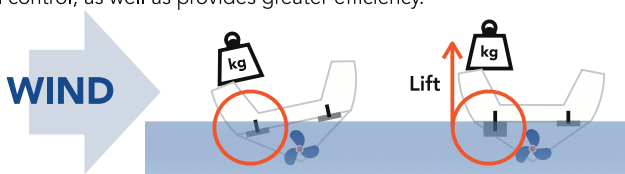
Trimming down helps the boat accelerate to a plane by lifting the stern. Once you gain speed and plane you should trim up a bit to level the ride.



USING TRIM TABS

Some boat may be equipped with trim tabs - metallic plates with hydraulic jacks placed at the stern and used to stabilize the boat's movement over water. The concept behind the trim tabs is similar to the engine trim. Trim tabs put up or down the bow of the boat. Proper adjustment reduces the amount of necessary manual control, as well as provides greater efficiency.

Use one trim tab to level an unevenly loaded boat. Similarly **one trim tab** adjustment can help in the cross wind situations.



Code Européen Des Voies De Navigation Intérieure (CEVNI) - The European Code for Inland Waterways was first established in 1962, following approval by the Sub-Committee on Inland Water Transport created by the Inland Transport Committee of the United Nations Economic Commission for Europe (UNECE).

USEFUL SIGNS

PROHIBITED



Entry



Jet ski



Sailing vessels



Use of sailboards



All craft other than motorized vessels or sailing craft



Motorized craft



Sports or pleasure craft



Water skiing



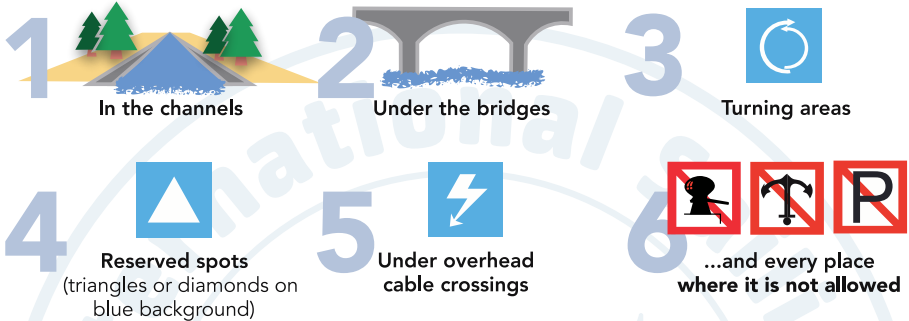
Speed limit
(in km/h)

ALLOWED



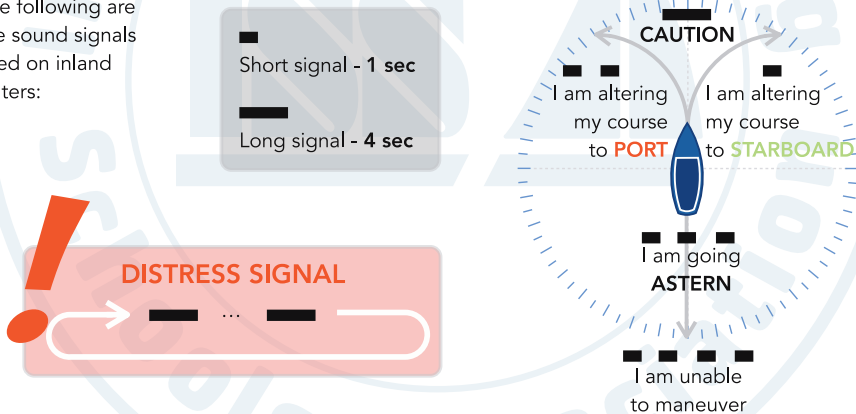
BERTHING RULES

As a general rule, you can berth anywhere you like. For the safety reasons however **AVOID** berthing in the following locations:



SOUND SIGNALS

The following are the sound signals used on inland waters:



PASSAGE RECOMMENDATORY SIGNS

The following are the recommendatory signs usually placed on bridges. They inform on the direction of the opening under the bridge.



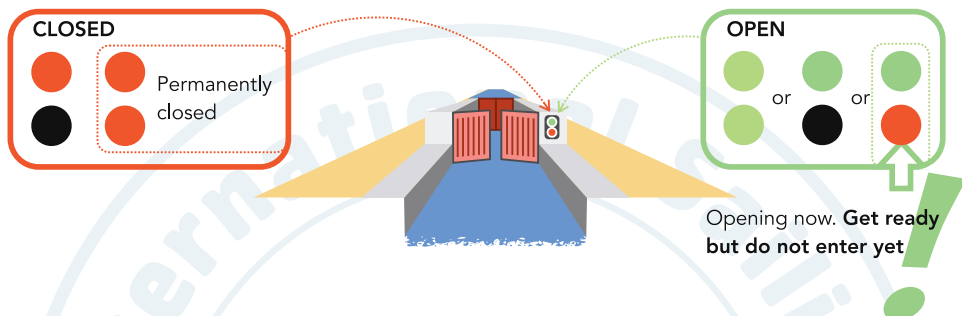
Opening in **BOTH** directions

Opening only in the direction **INDICATED** (passage in the opposite direction prohibited)

BOTH directions opening is more common. In order to use less material for the signs production, **the more common sign** is composed of **one diamond**, and the less common sign of two diamonds.

ENTERING SLUICES AND CANALS

When entering sluices or canals look for the red and green light or flag signals. The lights may be arranged vertically or horizontally.



SELECTED PROHIBITORY SIGNS

As a general rule, signs with a **red border** and a **red crossing out** are **prohibitory** signs.



Do not create wash likely to cause damage



No making fast to the bank on the side of the waterway on which the sign is placed



No launching or beaching of vessels



No overtaking



No passing or overtaking

SELECTED MANDATORY SIGNS

As a general rule, signs with a **red border** are **mandatory** signs.



Do not exceed the indicated speed (in km/h)



Proceed in the direction shown by the arrow



Keep a particularly sharp lookout



Give a sound signal



Stop



Listen to the VHF radio

SELECTED RESTRICTIVE SIGNS

As a general rule, signs with a **red border and black triangle** inside are **restrictive signs**.



Depth of water limited



to 2.20 m



Headroom limited



to 7.50 m



Width of passage
or channel limited



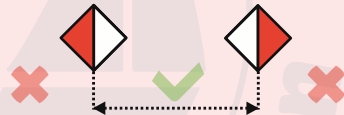
to 45 m

SELECTED RECOMMENDATORY SIGNS

Recommendation to keep
within the indicated area



No passing outside the marked area
(prohibitory sign)



Recommendation
to proceed in the direction
shown by the arrow,...



...in the direction from
the fixed light towards
the isophase light

SELECTED INFORMATIVE SIGNS



Making fast to the bank
permitted



Weir



Overhead cable
crossing



Anchoring or trailing of
anchors, cables
or chains permitted



Ferry-boat NOT
moving
independently



End of a prohibition
or obligation
applying to traffic
in one direction
only, or end
of a restriction



Berthing permitted

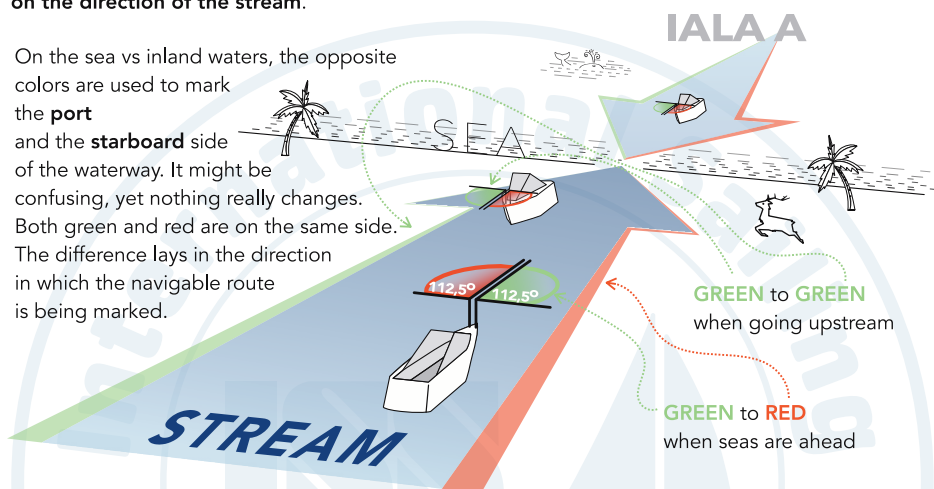


Ferry-boat
moving
independently

MARKING OF WATERWAYS

Green and red are used to mark the boundaries of navigable routes both in inland waters and at sea (IALA A system). Which side is green **on the inland side** and which side is red **depends on the direction of the stream**.

On the sea vs inland waters, the opposite colors are used to mark the **port** and the **starboard** side of the waterway. It might be confusing, yet nothing really changes. Both green and red are on the same side. The difference lays in the direction in which the navigable route is being marked.

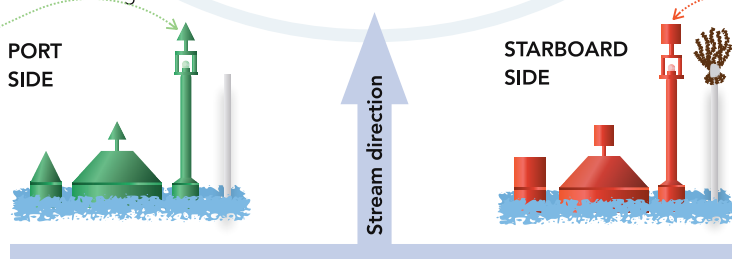


On inland waters, it is towards the sea (and thus **with the river stream**), and **at sea towards the land**.

LIMITS OF WATERWAYS

A system of buoys, poles, and lights is used to assist safe navigation. Each type of mark has a unique combination of color, shape, **top-mark** and light. You must be able to identify these marks and pass them safely on the correct side. Port and Starboard marks are **LATERAL MARKS**. When both port and starboard marks are placed near each other, you should travel between the two. Please note, however, that you might encounter only one type of the lateral mark. To know which side to pass it on the inland waters, you need to know the direction of the stream.

These are the markings used on the inland waterways. **GREEN FOR THE PORT** side and **RED FOR THE STARBOARD** side. Please note that on the sea the port side will be marked red, and the starboard side green.

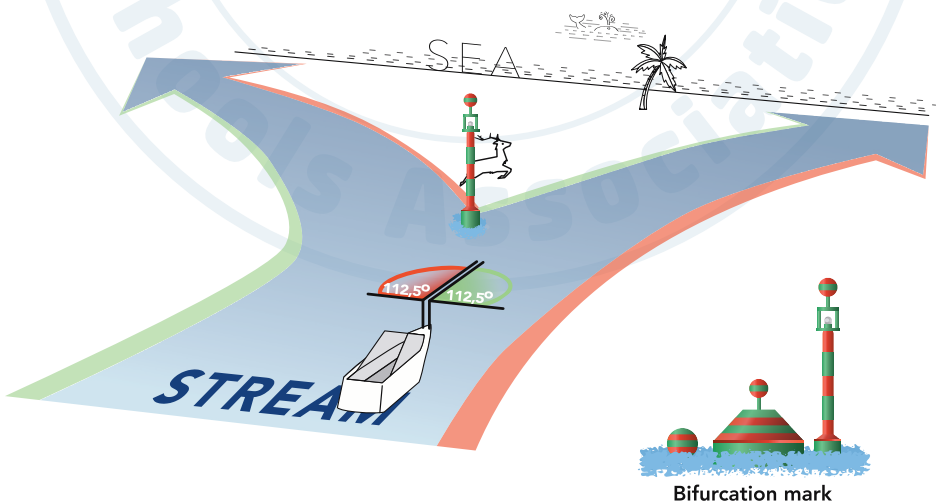


Here is an example of a waterway marked only with the **STARBOARD SIDE LATERAL MARKS**. You may, however, encounter a waterway marked only with the port side lateral marks. When sailing, always know the direction of the marking of the waterway and pay close attention to determine the side which you should pass the marks by.



BIFURCATION OF THE FAIRWAY

The bifurcation mark is composed of horizontal red and green bands and has a shape of a spherical buoy or buoy with a spherical topmark. The mark may also be equipped with a light.



MAIN FAIRWAY DIRECTION

Where necessary, a **RED CYLINDRICAL TOPMARK** or **GREEN CONICAL TOPMARK** placed above the bifurcation mark indicates on which side it is preferable to pass (main fairway).

Main fairway
to **PORT**

Indicating the main fairway does not mean
that sailing into the other one is prohibited.

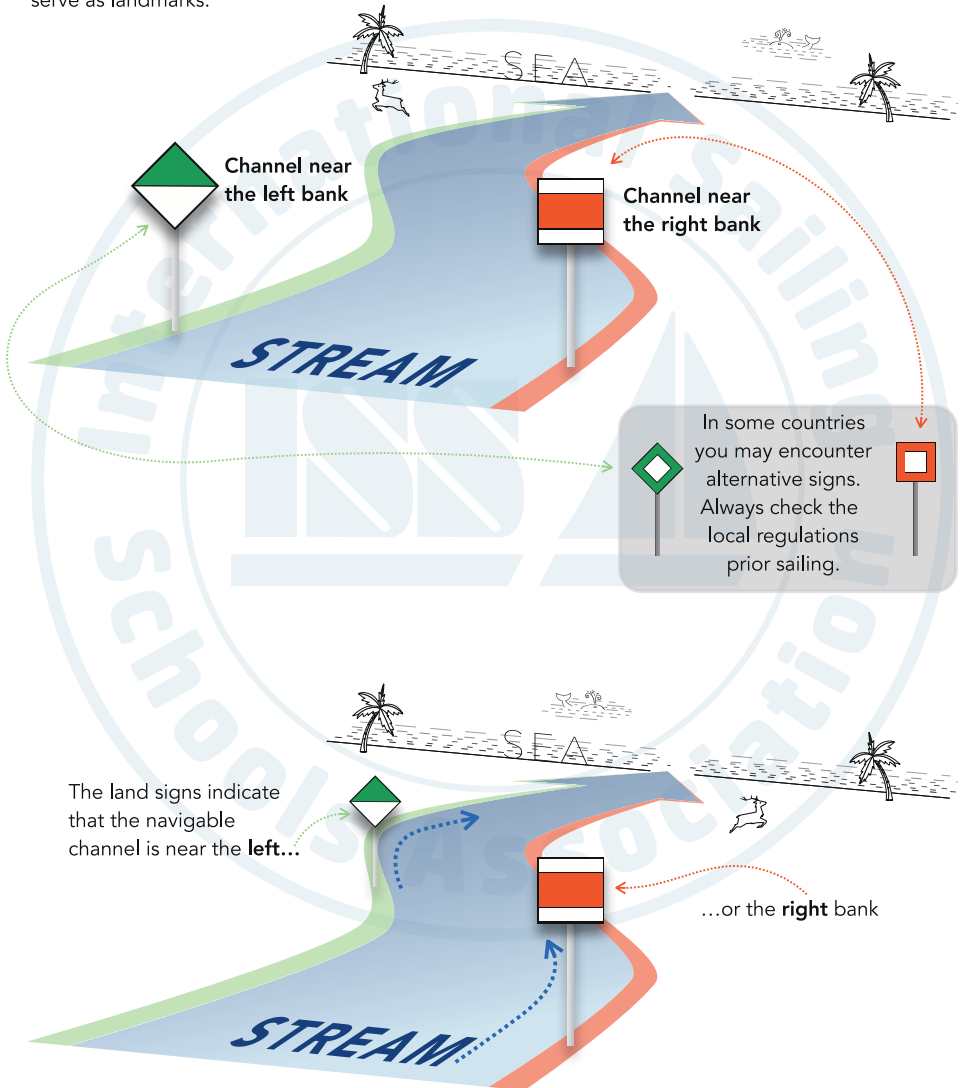
Bifurcation mark with
RED CYLINDRICAL TOPMARK

Main fairway
to **STARBOARD**

Bifurcation mark with
GREEN CONICAL TOPMARK

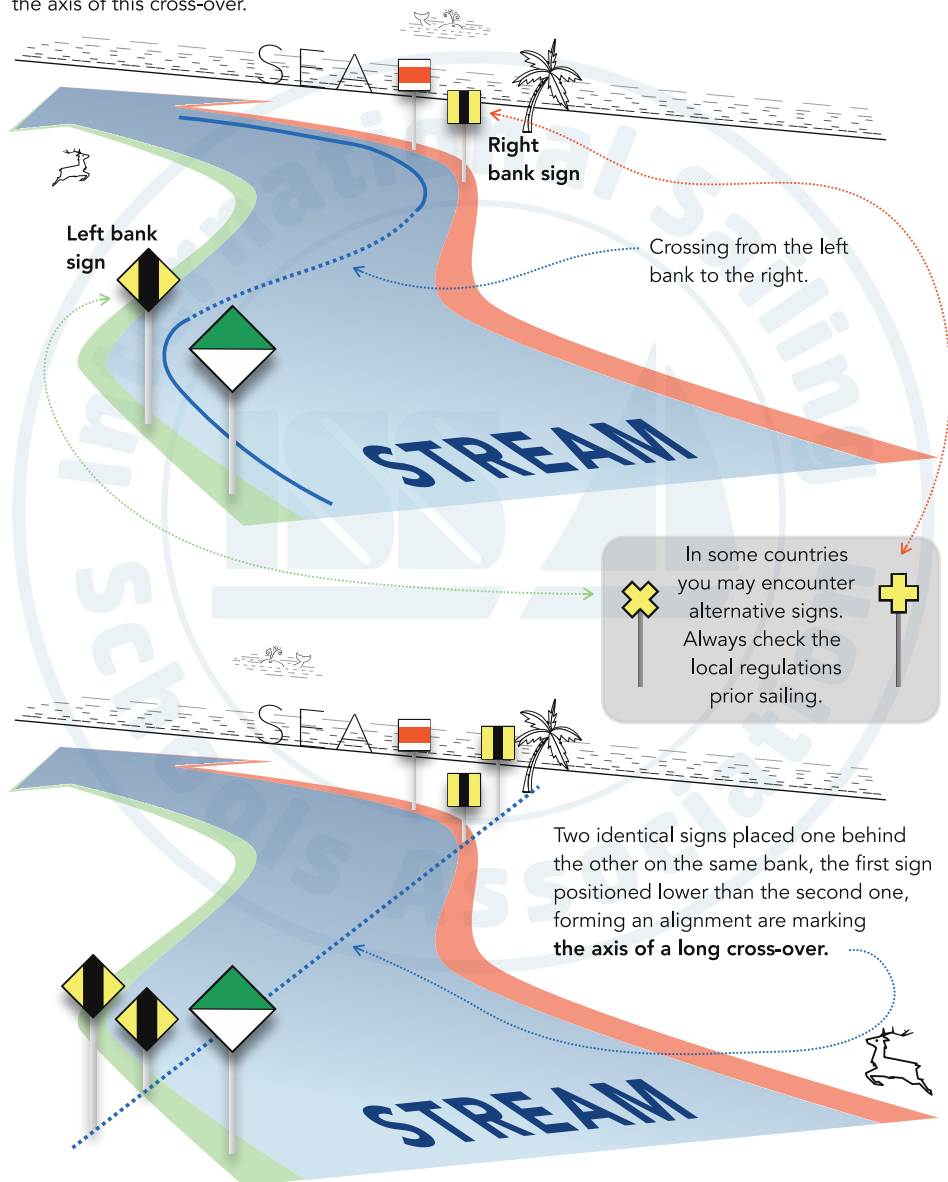
LAND SIGNS INDICATING THE POSITION OF THE FAIRWAY

These marks indicate the **position of the fairway in relation to the bank** and, together with the buoyage of the waterway, mark the fairway at points where it approaches a bank; they also serve as landmarks.



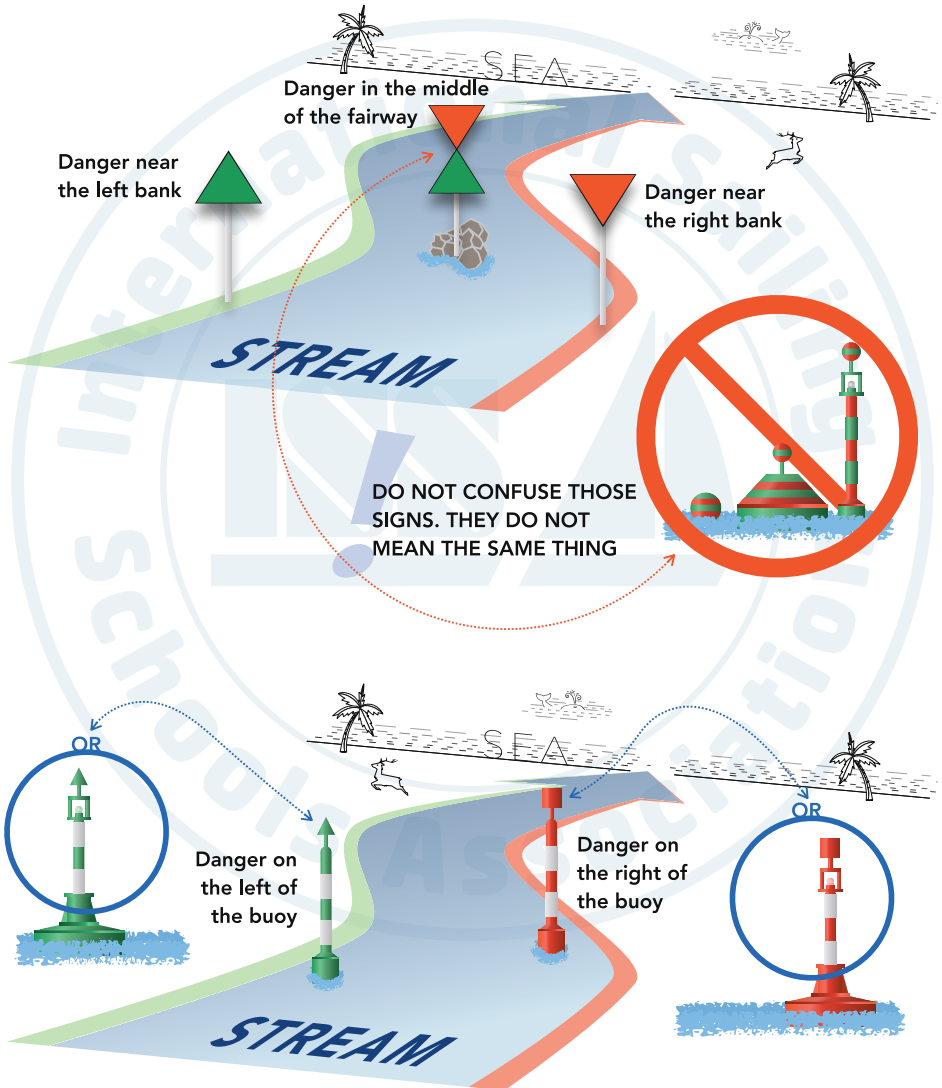
MARKING OF CROSS-OVERS

These marks indicate **at what point the fairway passes from one bank to another** and also give the axis of this cross-over.



MARKING OF DANGER POINTS AND OBSTACLES

Danger points and obstacles may be marked by the following fixed land signs or buoys.

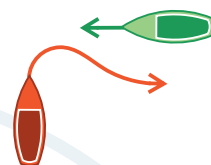


VESSEL'S PRIORITY

UNDER POWER



Vessels meeting at an angle but not when one is overtaking the other, give way to vessels on your **STARBOARD BOW**.

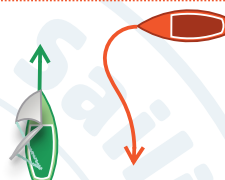


UNDER POWER



Sailing vessel is always **STAND ON** vessel to a motorized one.

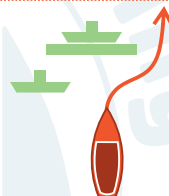
Sailing vessels under power are considered power vessels



UNDER SAIL OR POWER



Ferry moving independently or cable ferry is the **STAND ON** vessel



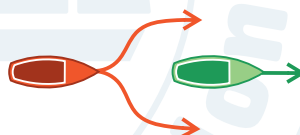
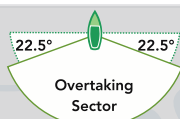
UNDER SAIL OR POWER



Overtaking Rule.

- The vessel **BEING OVERTAKEN** is the **STAND ON** vessel.
- The **OVERTAKING** vessel is the **GIVE WAY** vessel

Overtaking is defined as coming from more than 22.5° abaft the beam (the angle a stern light becomes visible).



Collision on water is much more dangerous than collision on land. Even if you have the right of the way always try and avoid a collision situation.

UNDER POWER



Vessels meeting head on – both turn significantly to **STARBOARD** and pass Port to Port.

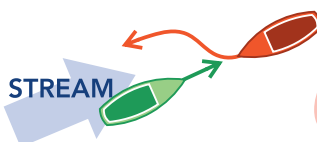


Commercial vessels always have the right of the way before any pleasure craft.

UNDER POWER



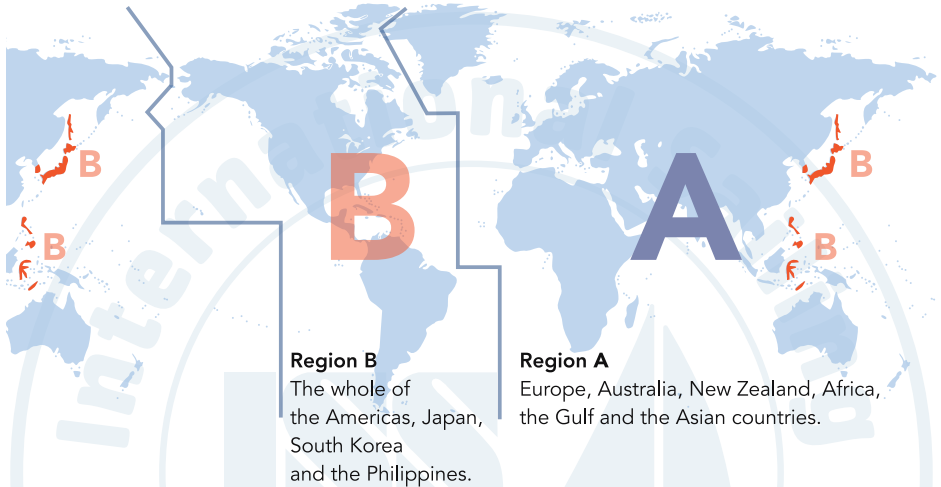
Vessel going downstream is the **STAND ON** vessel.





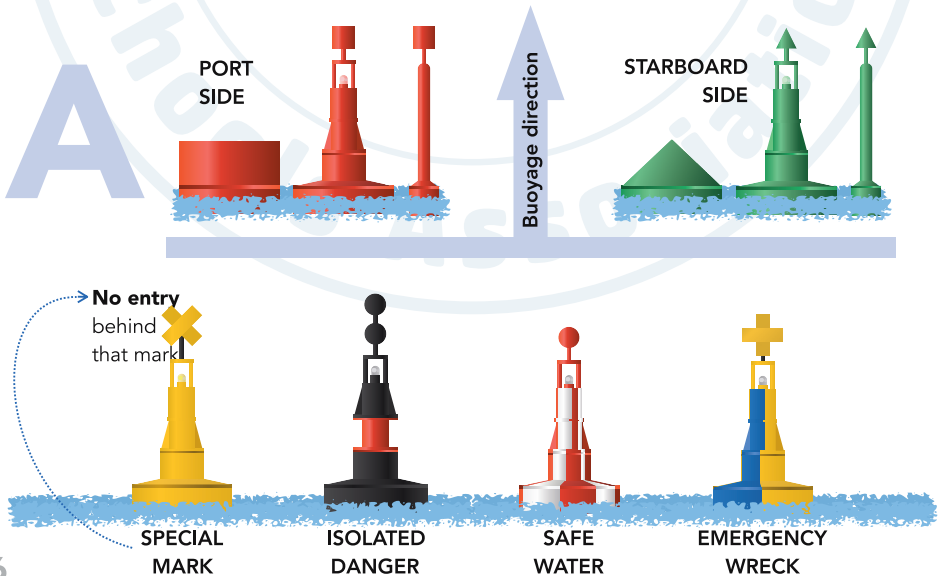
IALA Buoyage & Pilotage

Established in 1957, IALA (International Association of Marine Aids and Lighthouse Authorities) is a non-profit international technical association. IALA provides nautical expertise and advice. There are two IALA systems based on geographical location: Region **A** and Region **B**



LATERAL MARKS

When entering a port or harbour, the LATERAL MARKS ensure you stay in the required channel. We show here marks for the IALA Region A.

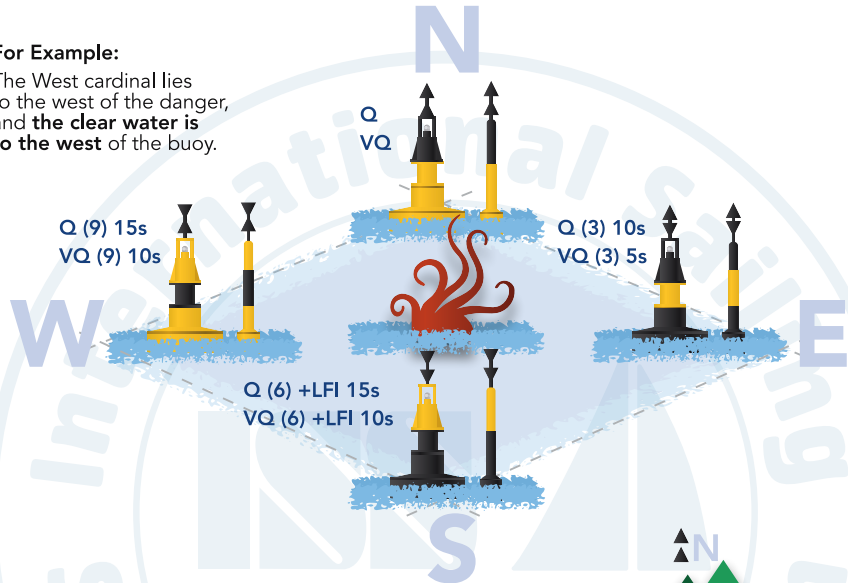


CARDINAL MARKS

Indicate the direction in which a particular danger lies, and the side on which it is safe to pass.

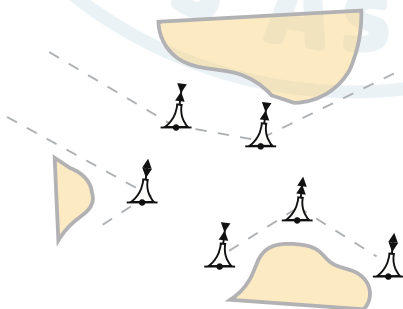
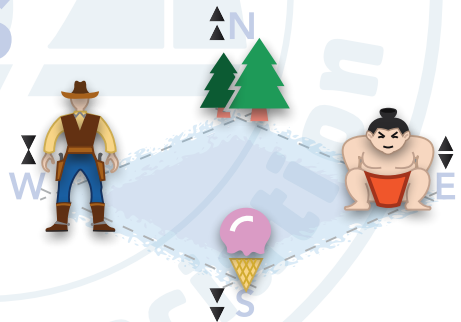
For Example:

The West cardinal lies to the west of the danger, and **the clear water is to the west** of the buoy.



You might use those icons to better memorize the cardinal marks. The icon refer to the arrangement of the cones.

Note that the tips of the cones always indicate the location of the black color on each marker.



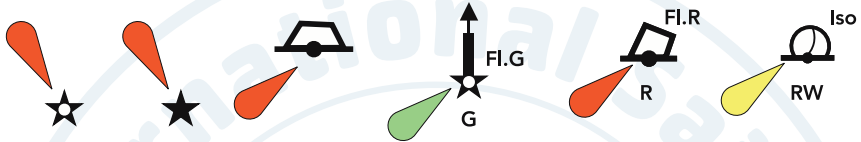
You will **NOT ALWAYS** encounter all **FOUR** marks around the danger zone

BUOYAGE ON CHARTS

IALA buoys and marks can be found on nautical charts.

They will be labeled with either their light sequence, sound sequence, colour or shape.

LIGHTS



Fl(3)WRG.15s21m15M

- Flashing groups of 3
- White / Red / Green sector
- 15 second period
- 21 meters high
- 15 mile nominal visibility

COLOURS & SHAPES



Black | Green | Red | White | Yellow + combinations

SOUNDS



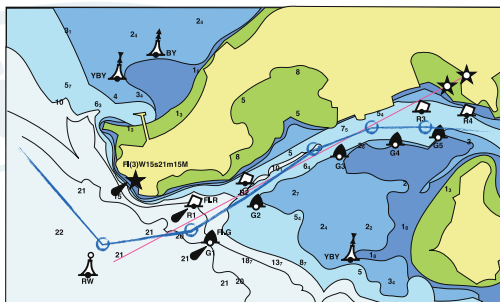
IALA Buoyage & Pilotage



You can use a Pilotage Plan to safely enter a harbour, day or night. Each leg can be jotted on a notepad for easy navigation on deck, including the distance and bearing for each leg.

Include in each leg of your plan:

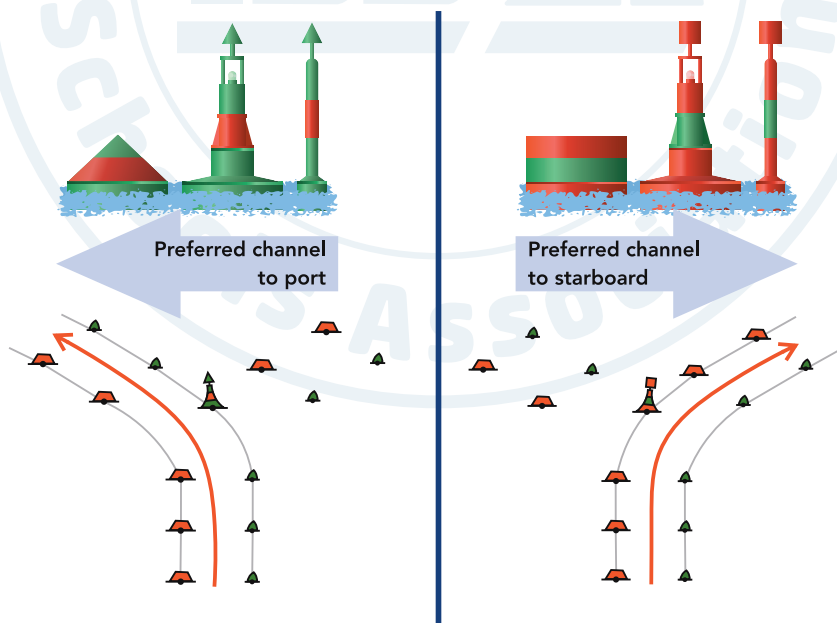
- Bearing (Compass)
- Distance
- Dangers and Risks
- Buoys (Colour & Number)



PREFERRED CHANNEL MARKS

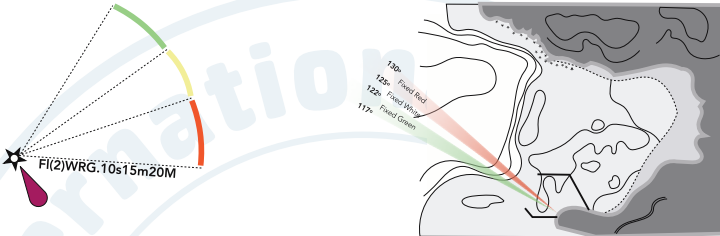
On entering an anchorage, port, harbour or bay there may be more than one route the skipper can take.

IALA have developed **Preferred Channel Markers** to indicate the preferred route into the anchorage.



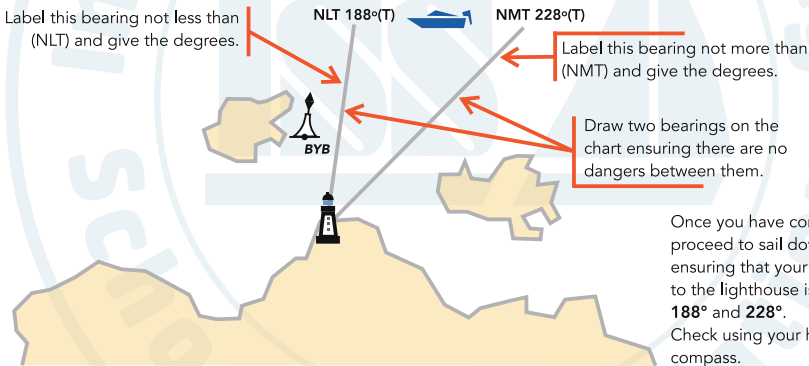
PILOTAGE - SECTORED LIGHTS

Sectored lights are used as a navigation aid to indicate fairway, a turning point, a junction with other channels, a hazard or something else of importance for the navigator. The light sequence will be shown on the chart, however sectored lights usually consist of a red section, a white section and a green section.



PILOTAGE - CLEARING BEARINGS

You can use clearing bearing to help you navigate through narrow channels between islands or hazards. To produce clearing bearings we need a prominent point to take two bearings from.



PILOTAGE - LEADING BEARINGS AND LEADING MARKS

Leading Bearings and Leading Marks are used to guide larger ships up the centre of a channel from the safe water buoy. Leading Bearings will be shown on most charts, and also in smaller pilotage charts in the Almanac.

During the day Leading Marks are large white posts usually with a shape on the top. At night these marks show yellow lights with the sequence shown on the chart.



If you see this alignment you are on the **Port side** of the channel.



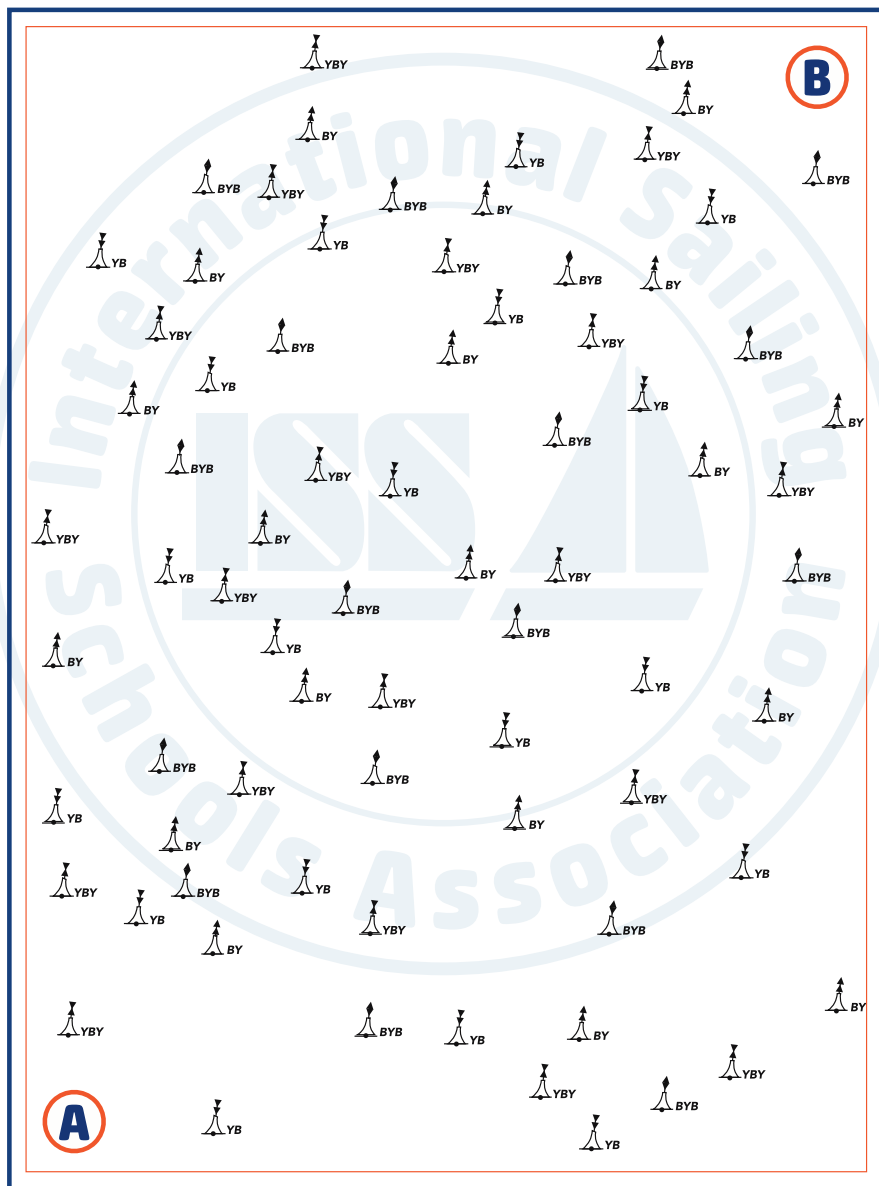
If you see this alignment you are in the **Centre of** the channel.



If you see this alignment you are on the **Starboard** of the channel.

EXERCISE 1

Sail safely from **A** to **B**, avoiding obstacles marked by the cardinal marks





Collision Preventing Rules

The **International Regulations for Preventing Collisions at Sea 1972 (COLREGS)** are published by the International Maritime Organization (the IMO) and set out, among other things, the "rules of the road" or navigation rules to be followed by ships and other vessels at sea to prevent collisions between two or more vessels.

FUNDAMENTAL RULES

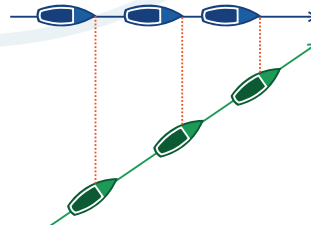
- 1 KEEP A WATCH** by all appropriate means (look, listen, radar, AIS)
- 2 NO ONE** has **'RIGHT OF WAY'**
- One vessel is the give way, the other is the stand on vessel.
3 BOTH remain **RESPONSIBLE** to avoid a collision
- Travel at a **SAFE SPEED** for the conditions
- In a narrow channel **KEEP TO STARBOARD** (right)
- 6 GIVE WAY = EARLY & SUBSTANTIAL** action
- 7 STAND ON = MAINTAIN COURSE AND SPEED** until it is clear the other vessel is not taking action and only then take avoiding action

RISK OF COLLISION

When there is deemed to be a risk of collision

- One vessel is the **GIVE WAY** vessel
- The other is the **STAND ON** vessel

If there is a **CONSTANT BEARING** between the two vessels which are approaching each other there is a risk of collision.



SEA SAILING RULES

UNDER SAIL

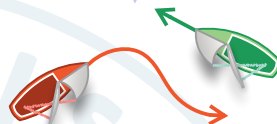


Starboard Tack Rule

Wind on the Starboard side of the vessel

- **STARBOARD TACK** boat is the **STAND ON** vessel.
- **PORT TACK** boat is the **GIVE WAY** vessel.

WIND



UNDER SAIL



Windward Rule

The boat nearest the wind is the Windward boat. The boat furthest from the wind is the Leeward boat

- **LEEWARD** boat is the **STAND ON** vessel.
- **WINDWARD** boat is the **GIVE WAY** vessel.

WIND

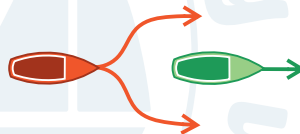


UNDER SAIL OR POWER



Overtaking Rule

- The vessel **BEING OVERTAKEN** is the **STAND ON** vessel.
- The **OVERTAKING** vessel is the **GIVE WAY** vessel



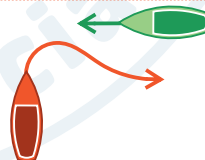
Overtaking is defined as coming from more than 22.5° abaft the beam (the angle a stern light becomes visible).



UNDER POWER



Vessels meeting at an angle but not when one is overtaking the other, give way to vessels on your **STARBOARD BOW**.



UNDER POWER



Vessels meeting head on – both turn significantly to **STARBOARD** and pass Port to Port.



GENERAL LIGHTS RULE



Vessel displaying more red lights is a **STAND ON** vessel.

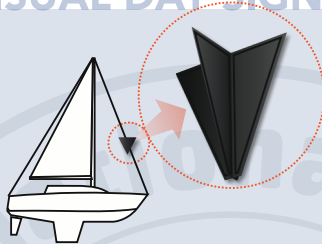


SHAPES AND SOUNDS

VISUAL DAY SIGNAL

FOG SIGNAL

Vessel motor sailing



At intervals not exceeding 2 mins:

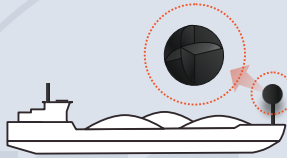
If making way



If not making way



Vessel at Anchor



Rapid bell at intervals not exceeding 1 min. If over 100m followed by rapid gong. May also sound MORSE A on whistle



Vessel not under command



At intervals not exceeding 2 min



Vessel aground

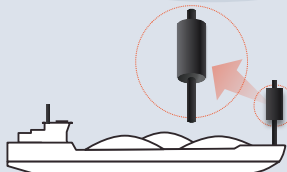


3 bell strokes
+ rapid ringing
+ 3 bell strokes
+ (gong if 100m plus).

At intervals not exceeding 1 min. May also sound Morse R on whistle



Power driven vessel constrained by draught



At intervals not exceeding 2 min



Collision Preventing Rules



VISUAL DAY SIGNAL

FOG SIGNAL

Vessel engaged in diving operation

6



Efficient sound signal at intervals not exceeding 2 mins



I have a diver down; keep well clear at low speed.



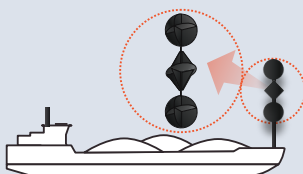
You may encounter alternative flag indicating diving operation



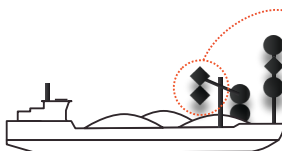
I am taking in or discharging or carrying dangerous goods.

Power driven vessel with restricted ability to maneuver

7



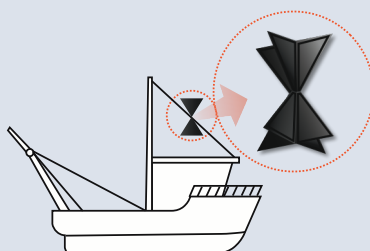
At intervals not exceeding 2 min



Additional side marking. **Two diamonds** indicate the **side on which you should pass the vessel**

Fishing Vessel

8



At intervals not exceeding 2 min



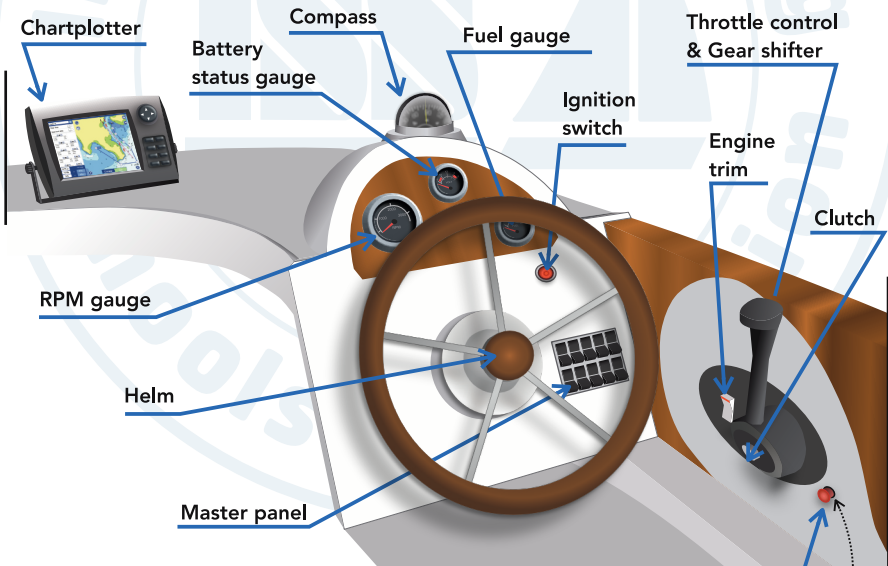
Handling Yacht Under Power

WHEELHOUSE

Construction of the modern powerboat wheelhouse depends largely on the type and size of the boat itself. They go from very simple, consisting only the wheel, the throttle control perhaps some essential gauges like the RPMs or the fuel gauge, to very complex ones with plenty of electronics and even redundant systems and gauges. Here's what you can typically find in the wheelhouse:

- Helm
- Throttle control
- Gear Shifter
- RPM gauge
- Fuel Gauge
- Battery status gauge
- Speed gauge
- Water gauge
- Compass
- Chartplotter
- Ignition/kill-switch
- Engine trim
- Clutch
- VHF radio
- Windlass control
- Lights control panel
- Sound system (FM Radio)
- Horn

Master panel is usually customizable and can contain various switches.

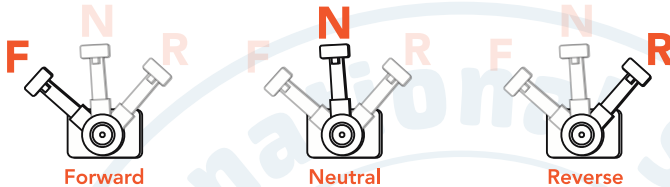


Kill cord does not mean strapping yourself solely to the outboard engine. On smaller vessels, somewhere in the wheelhouse, you can find a kill-switch requiring the kill cord plug-in.



GEARS

Most of the modern boats are equipped with a shifter like the one below. You always **start the engine on neutral** and then you can switch to forward or reverse. Moving the shifter further in each direction is like pushing the accelerator pedal in a car. **There is no break** however!



Always allow a **moment in neutral** when switching gears.

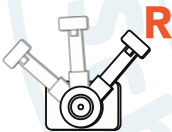
INERTIA

The behavior of the boat on the water resembles ice skating a little. The boat will never stop at once. It also won't turn so precisely as a car.



Always bear in mind that the **boat is heavy** and has a **lot of inertia**.

PROP KICK

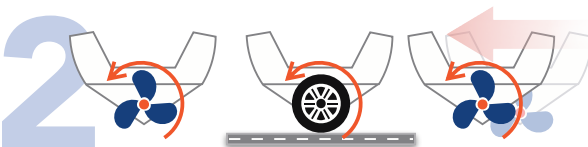


Appears only on the vessels with the **fixed-shaft engine** and only when you are **in reverse gear**.

Always **check the direction** your propeller revolves.



If propeller revolves clockwise, the stern will move to starboard before going into reverse.



If propeller revolves counterclockwise, the stern will move to port before going into reverse.

TURNING CAPABILITY - THE HEART RULE

Wind and stream play a strong factor in the boat's turning capability.

WIND

When head-to-wind, the bow will easily come around

Pivot points are different for every boat, but when **going ahead** a yacht usually pivots around a point approximately **1/3 from the bow**. When **going backwards** the pivot point moves **1/3 from the stern**.



When going downwind, the wind will resist your efforts to make a turn

The bow is most vulnerable to the wind

When going **forward**,
beware of colliding
with obstructions
with your **stern**

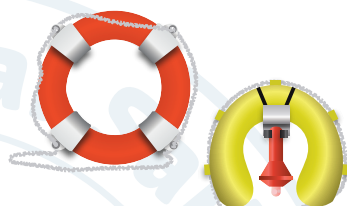
When going **backward**,
beware of colliding
with obstructions
with your **bow**

Handling Yacht Under Power

MAN OVERBOARD PROCEDURE

In case of a man overboard (MOB) situation remember to **KEEP CALM**. It is essential not to lose sight of the person and recover him/her as quickly as possible. Here's a simple procedure to follow:

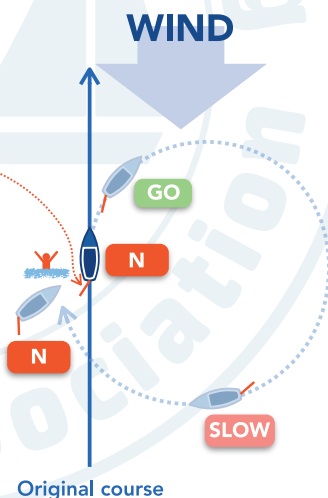
1. Alert the crew.
2. Stop the engines.
3. **DO NOT LOSE SIGHT** of the MOB. You can designate a crew member to watch the person.
4. Throw a ring or horseshoe buoy.
5. Turn the boat towards the MOB. Be careful and **DO NOT HIT THE PERSON**.
6. When close, maneuver to approach the person into the wind or into the current, whichever is stronger.
7. Bring the boat alongside to recover the person.
8. Provide first-aid if required and monitor the person.



TURN FOR MOB (SMALL CRAFT)

1. Shift to neutral gear.
2. Turn the boat towards the person (e.g. if a person fell over the port side, make a rapid and strong turn towards the port side).
3. When clear of the person, go ahead to recover the person as quickly as possible. **KEEP CALM** however.
4. After making a 2/3 of a circle slow down.
5. **Shift to neutral gear**, when the person is ~15 degrees off the bow.
6. Ease the helm and put the engines into reverse, if needed. **DO NOT HIT THE PERSON**.

Always approach the person into the wind and/or current (whichever is stronger). Stop the boat with the person well forward from the propellers.



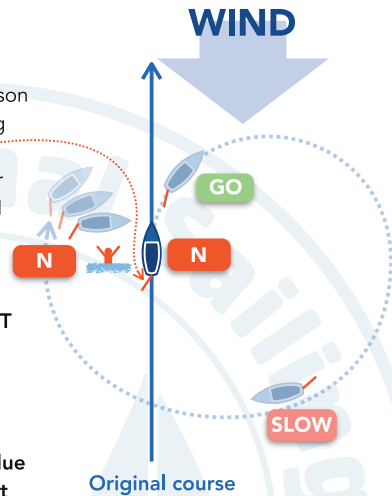
Case: MISSING PERSON

1. Alert the crew and search the boat well.
2. Slow the boat.
3. Turn on reciprocal course.
4. Make a distress radio call (**MAYDAY**).
5. Put the crew to muster stations.
6. Search.

TURN FOR MOB (HIGH BOWED VESSEL)

1. Shift to neutral gear.
2. Turn the boat towards the person (e.g. if a person fell over the port side, make a rapid and strong turn towards the port side).
3. When clear of the person, go ahead to recover the person as quickly as possible. **KEEP CALM** however.
4. After making a 2/3 of a circle slow down.
5. **Position the boat upwind of the MOB**
6. Slowly **drift down** onto the MOB. **DO NOT HIT THE PERSON.**
7. When alongside **shift to neutral gear.**
8. Recover MOB

This maneuver is suitable for vessels in which, due to high bow, the sight of MOB can easily be lost when going into the wind.

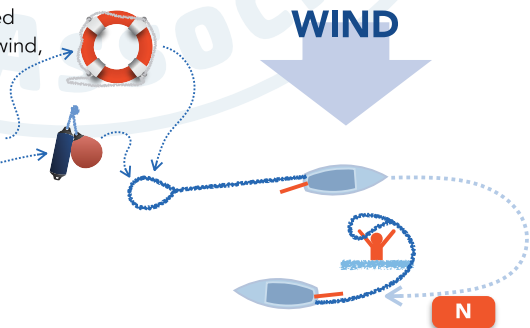


RECOVERING MOB

When sailing on a small craft and approaching the MOB into the wind or the current, the simplest way of making a recovery is to simply grab the MOB with your hands from the bow. Keep in mind that in cold water people lose strength quite quickly so don't expect too much help from the MOB. Make sure you hold on to something on board as the weight of the MOB can drag you into the water. Getting a man on board is much more difficult than you might think. With the added weight of a wet clothing you may have to lift up to 100-130kg.

When sailing on a high-bowed or high-sided vessel and approaching the MOB from upwind, you may use the following technique:

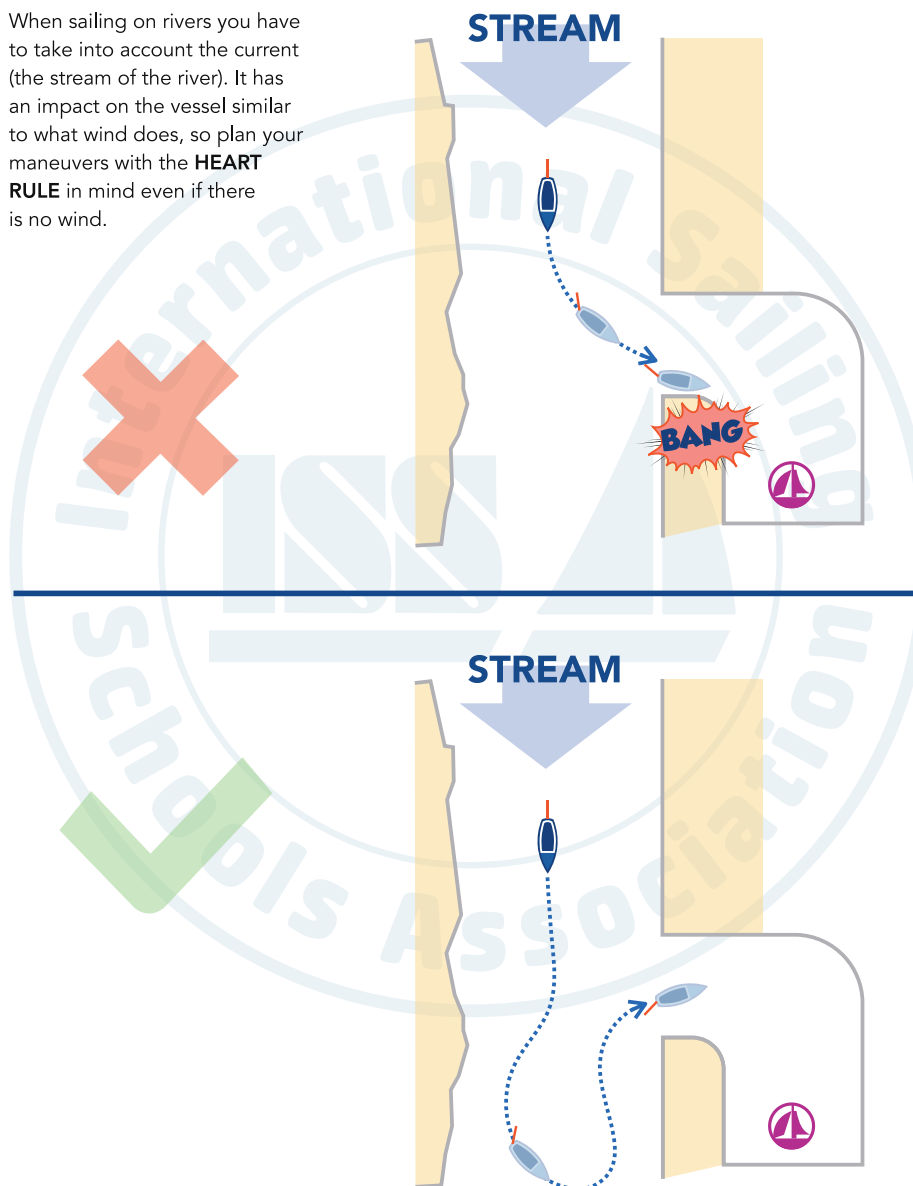
1. Use approximately 30m line with a **ring buoy**, or a **fender** attached to it.
2. Approach from upwind and circle the MOB.
3. Once close to the MOB shift to neutral.
4. Be careful not to get the rope to be caught in the propeller.



Handling Yacht Under Power

TAKING CURRENT INTO ACCOUNT

When sailing on rivers you have to take into account the current (the stream of the river). It has an impact on the vessel similar to what wind does, so plan your maneuvers with the **HEART RULE** in mind even if there is no wind.



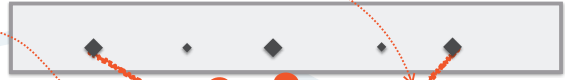
DOCK LINES

Each line used for docking a boat has a different function.

Bow line & stern line are the main docking lines. They keep the boat from running away from the dock but **DO NOT STOP the boat's FORWARD and BACKWARD** movement

Bow spring & stern spring are additional docking lines. They keep the boat from moving forward and backward. Always use them when leaving the boat longer at the dock

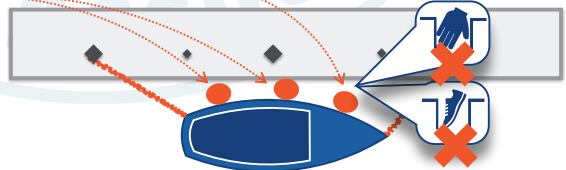
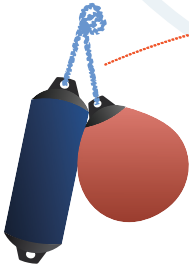
Bow breast & stern breast keep the bow and stern close alongside, particularly in case of a strong offshore wind. They are not essential when bow and stern lines and springs are also used.



WIND

FENDERS

Fenders are usually made of plastic and are hung from the guardrails or lifelines over the side of the boat to prevent it making contact with the bulkhead, dock or another boat along side. They are made in a variety of shapes to suit different situations. You should use at least three fenders when berthed alongside.



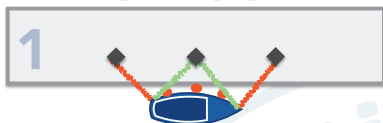
NEVER twist the fender rope around your hand when handling fenders.

NEVER Use your hands or feet to push away the boat from the bulkhead.

Handling Yacht Under Power

TYPES OF BERTHS

ALONGSIDE



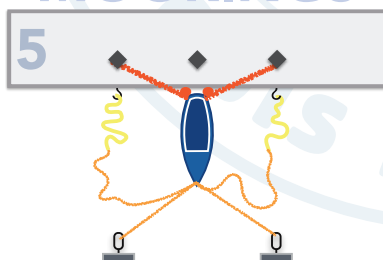
The most typical type of berth. Use at least bow and stern line. Adding just one spring line will better stabilize the boat.

DOLPHINES



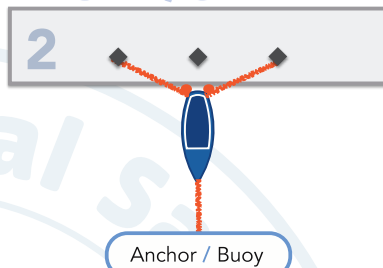
In some marinas you might encounter docking piles, called dolphins (large wooden or metal stakes driven into the seabed). When approaching the berth first fix the lines on the piles and then ashore.

MOORINGS



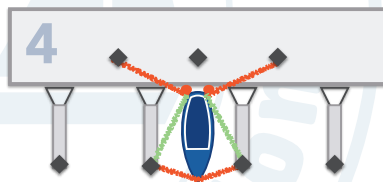
Usually, there is a lazy-line secured to an underwater mooring. The lazy-line is **picked up from the shore side** on arrival and **led to bow (or stern, depending on how you want to dock) and fixed from the open waterside**. Twin moorings secure the boat.

BOW/STERN

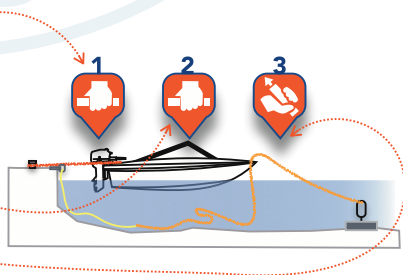


To berth with your bow or stern you will need to attach the boat to the docking buoy (if there is one) or to use your anchor to stabilize the boat.

FLOATING DOCK



Modern marinas offer platforms or ramp supported by pontoons that are called floating docks. They allow a convenient berth. ramps are usually shorter than the boats. Use spring in order to prevent the boat of hitting the bulkhead.



LEAVING THE DOCK

1
WIND



- (1) Remove all lines except the **stern line**.
- (2) The bow will be blown away.
- (3) When clear, **shift forward** and remove the stern line.

2
WIND



- (1) Move a **fender to stern** and remove all lines except the stern spring.
- (2) **Turn** as if You wanted to **leave** (steering wheel to starboard), **go into reverse** and wait for the stern to reach 45-60 degrees from the dock.
- (3) **Engage neutral**. Wait, adjust the steer for going forward
- (4) **Engage forward** and move at possibly slow speed (depending on tide and wind).

3
WIND



- (1) Move a **fender to bow** and remove all lines except the **bow spring**.
- (2) **Turn** the boat as if You wanted to **hit the dock** (steering wheel to port), **shift forward** and wait for the stern to be put away.
- (3) **Engage neutral**. Prepare the steer for reverse gear.
- (4) **Remove the bow spring and go reverse**. Bear in mind the prop kick.

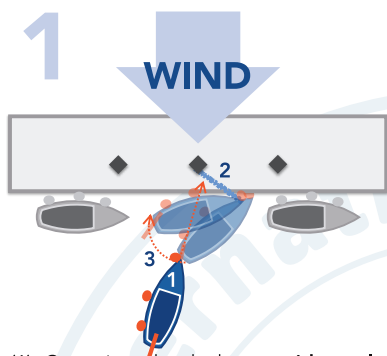
4
WIND



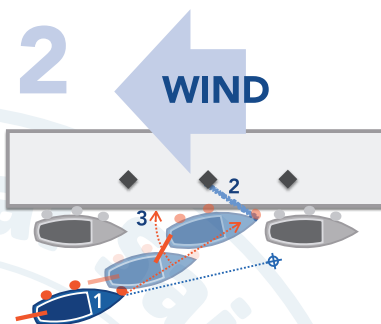
- (1) Move a **fender to bow** and remove all lines except the **bow spring**.
- (2) **Turn** the boat as if You wanted to **hit the dock** (steering wheel to port), **shift forward** and wait for the stern to be perpendicular to the dock.
- (3) Remove the bow spring and **go into reverse as far as possible**. Bear in mind the prop kick.

Handling Yacht Under Power

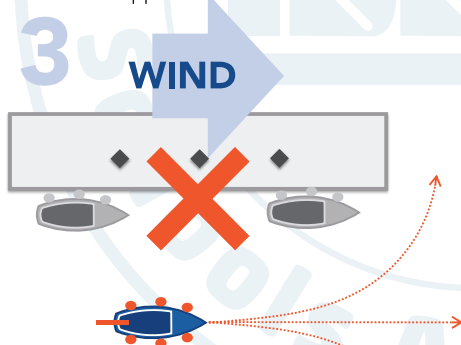
ARRIVAL AT THE DOCK



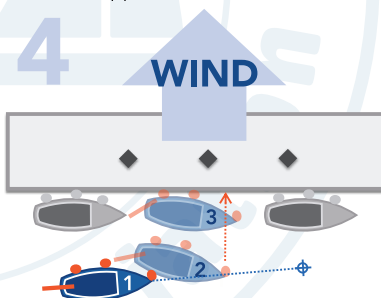
- (1) Come into the dock on a **wide angle**, **targeting the middle of the spot** to berth, watch your speed and move a **fender to the bow**.
- (2) **Fix the bow spring**.
- (3) **Turn** as much as possible **to starboard**. Keep the **forward** gear. Wait for the stern to approach the deck.



- (1) Come into the dock on a **gentle angle**, **targeting ahead** the spot to berth, watch your speed and move a **fender to the bow**.
- (2) **Fix the bow spring**.
- (3) **Turn** as much as possible **to starboard**. Keep the **forward** gear. Wait for the stern to approach the deck.



- **Avoid berthing with wind behind you** and carefully look for some other place in the marina.
- Or **alternatively** you can **turn the boat around** and approach the berth.
- When approaching the marina prepare your **fenders on both sides** of the boat.
- Move slowly and **make a reconnaissance**. You don't have to dock at once. It's not a race.



- (1) **Approach** the dock at a gentle angle, moving **almost parallel to the berth**.
- (2) **Stop** in the front of the place selected for berth **with the bow a bit to the wind**.
- (3) **Wait** until the **wind pushes the boat** into the berth.

Meteorology

Inland Skippers should principally have meteorological information about their local sailing area. This is mainly the daily forecast, but can also be extended to a week-long, regional or global forecast. In general, the skipper would want information on the following:

- Wind Strength
- Wind Direction
- Precipitation
- Air Pressure
- Temperature
- Cloud Cover
- Seasonal Changes
- Sea State (when sailing on the sea)

WEATHER FORECASTS

Weather forecasts are essential in planning a safe passage. They are available from a variety of sources.





- Internet
 - ▶ windguru.cz
 - ▶ weather4D.com
 - ▶ windy.com
 - ▶ GRIB Files
- Navionics™
- Local Radio
- National Radio (Shipping forecast)
- Marina Office
- Appropriate National Meteorological Offices
- INMARSAT
- NAVTEXT



GRIB FILES are the standard data format of the World Meteorological Organization. They are available to download and contain raw data based on the world's collected meteorological information.

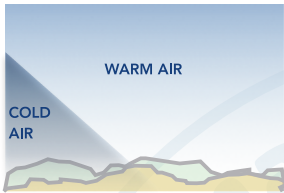


The direction of the arrows corresponds to the direction of the wind.

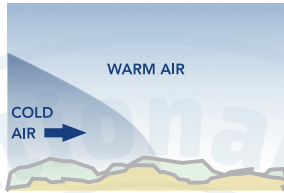
-  = 5kn
-  = 10kn
-  = 15kn
-  = 20kn

FORMATION OF A DEPRESSION

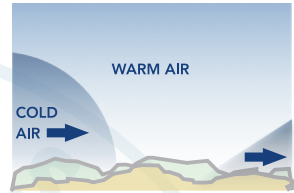
Changes in weather are caused by the interaction of cold and hot air masses.



When they meet they do not mix. The cold air moves below the hot air as it is denser.



As the cold front advances it undercuts the hot air, moving it towards the centre of the depression.



The cold front moves quicker than the warm front and will soon develop into an occluded front.

Viewed from above, the development of a front looks like this:

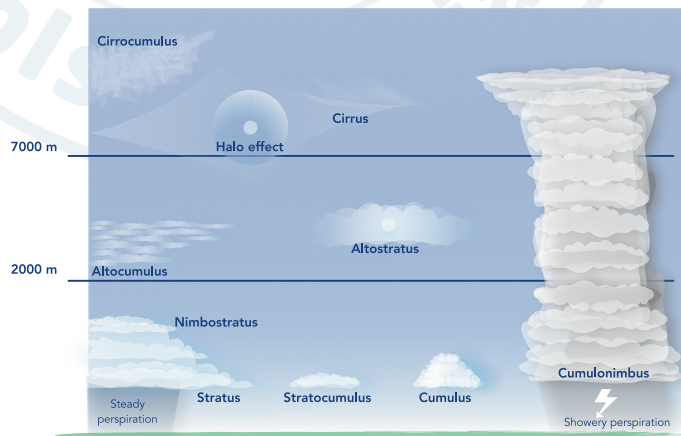


The rotation of the earth causes depressions to develop in a counter-clockwise fashion in the Northern Hemisphere

TYPES OF CLOUDS

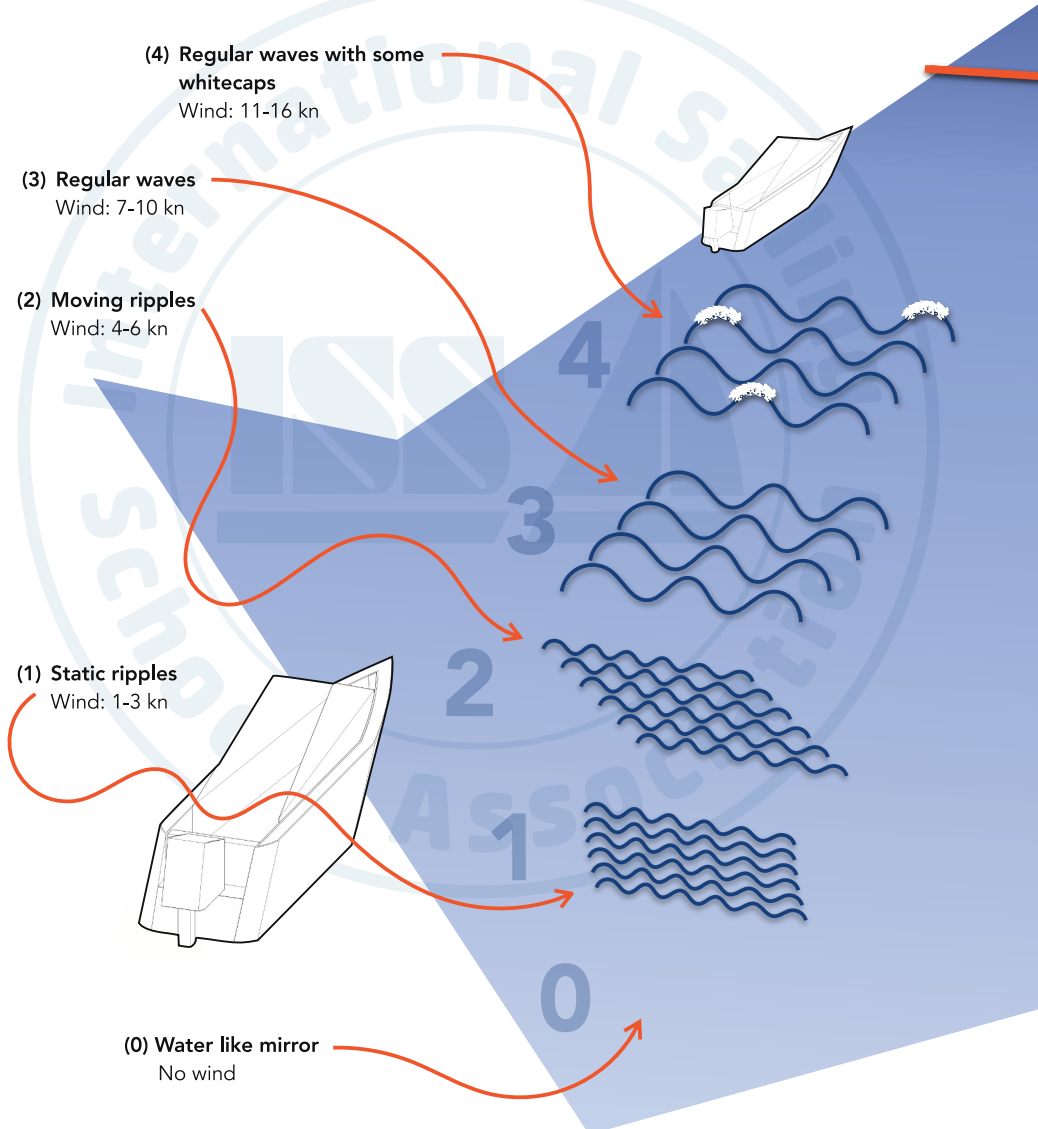
Clouds are formed by the condensation of water in the atmosphere.

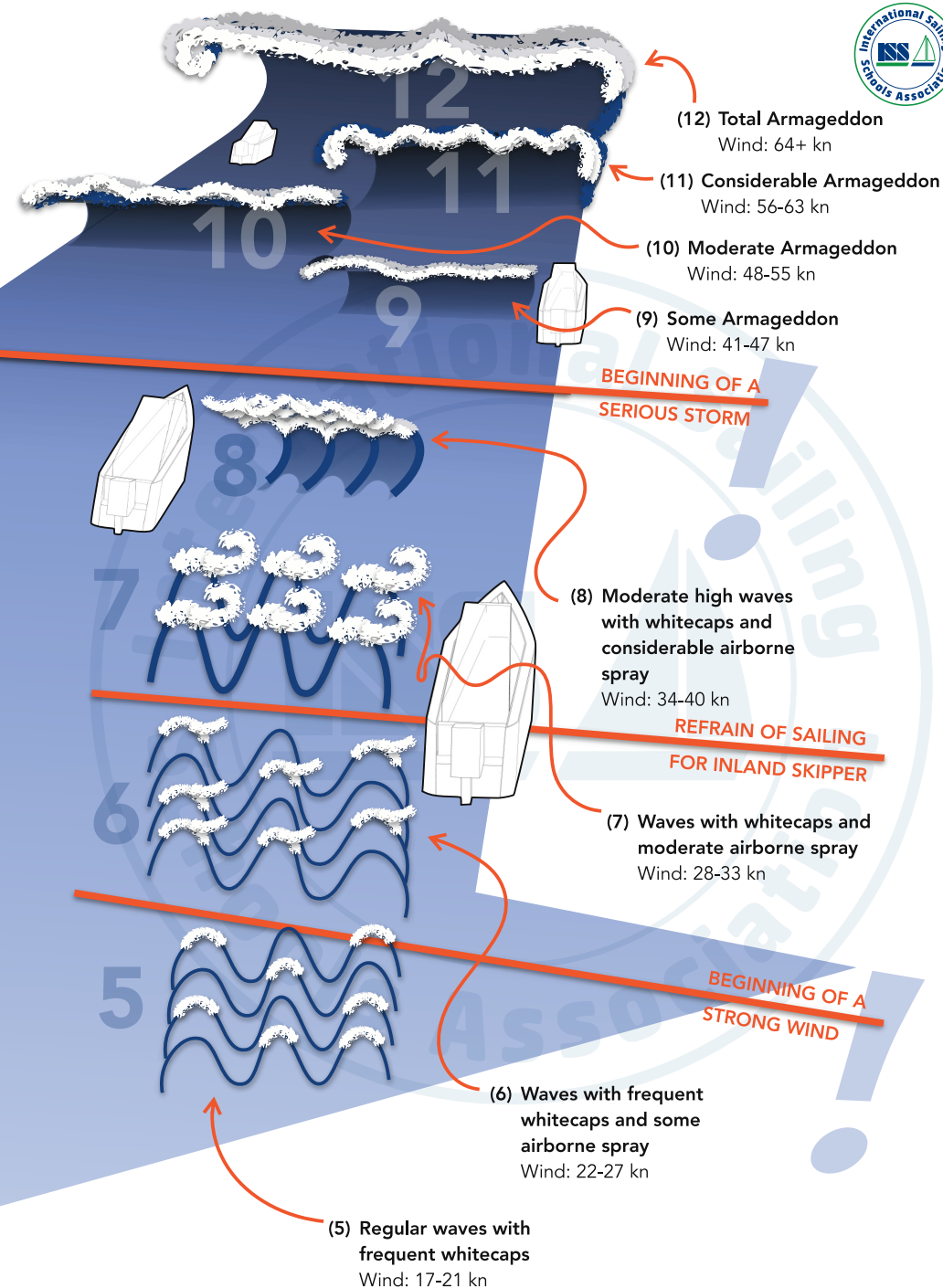
The height of cloud determines its shape and its risk of precipitation.



BEAUFORT SCALE

Beaufort scale is an empirical measure that relates wind speed to observed conditions at sea or on land. Please keep in mind that **Beaufort scale describes sea state conditions what means that it looks much different on inland waters.**





Anchoring

DROPPING THE ANCHOR

Look at how other boats are oriented on the approach to the site. (1) Always go against the wind when dropping an anchor. (2) Ensure you have stopped. (3) Start easing the anchor. (4) Go slowly backwards, (5) until the chain/rope stretches.

WIND



WIND

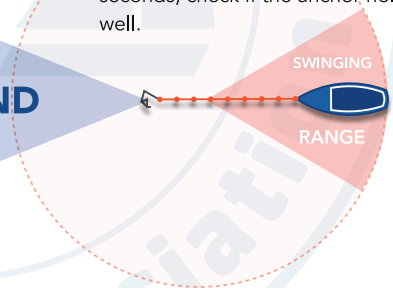


Anchor works best when the pull from the boat is closest to horizontal. When using **chain** apply it in the amount of **3-5 times the depth beneath the boat**. When using **rope** increase the ratio to **x7-10**. Once enough chain or rope is deployed engage reverse gear and with high revs for 2-3 seconds, check if the anchor holds well.

SWINGING CIRCLE

Bear in mind the swinging circle, which is around one third of the part of chain or rope that is laying on the seabed. Ensure your **swinging range clears obstructions**. In order to check if the anchor is holding observe your swing. **Keep in mind the possible change in wind direction**.

WIND



RAISING THE ANCHOR



- (1) Slowly move towards the anchor. **Watch for the chain/rope not to get beneath the hull.** (2) When near vertically above, start pulling the anchor. (3) Rinse it and carefully get in aboard. (4) Secure the anchor aboard and you are free to go.

Passage Planning



APPRAISAL

Creating a detailed mental and chart-based model of how the voyage will proceed. Gather and consider all relevant information: charts, weather, tides, almanacs etc.

PLANNING

Pre-departure Checks

Produce a detailed plan of your route on your chart, plotter or iPad, factoring in the weather, tides, buoyage, pilotage and Plan B. Communicate this to your team.

EXECUTION

Leaving Harbour A

Pilotage

Arrival at Harbour B

It is the skipper's responsibility to treat the plan as a "Living Document". Delegate roles to the crew and execute the intended plan accordingly.

MONITORING

Regular checks and monitoring of the progress of the vessel along its planned route. All crew should be able to confirm their location.

1

APPRAISAL

PLANNING

PLANNING YOUR PASSAGE

As Inland Power Yacht Skippers it is your legal and moral obligation to plan your passage well in advance. A good skipper should:

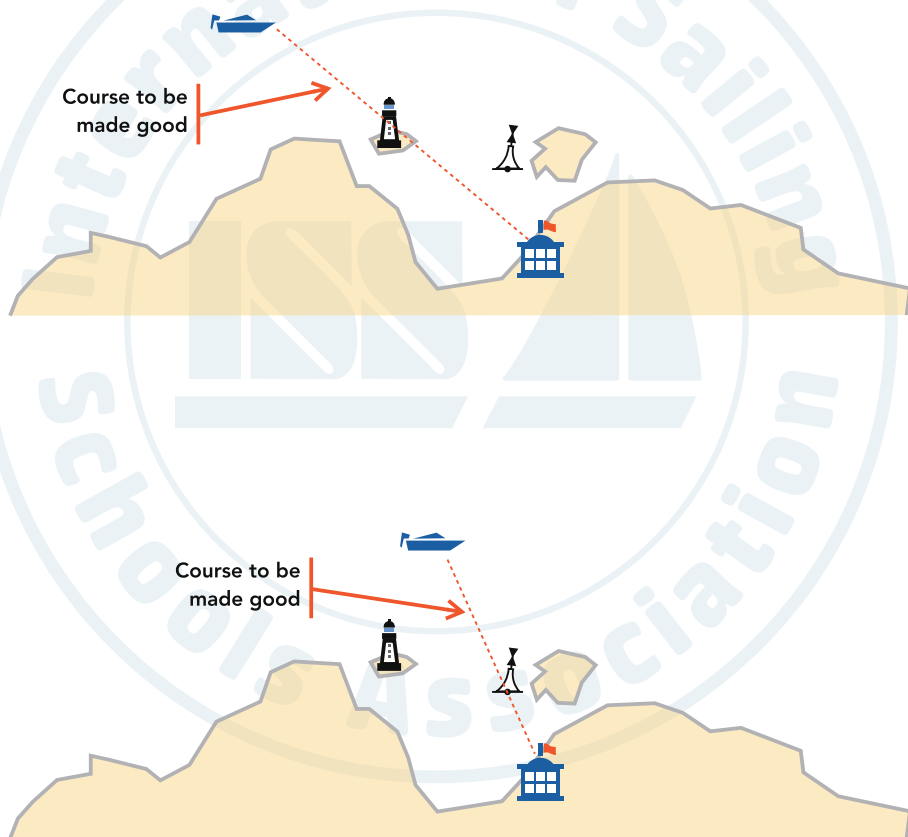
- **Organize crew** – How many, how experienced, strengths and weakness?
- **Study the weather** – Seasonal changes, what is to be expected?
- **Navigation Equipment** – Charts, Navionics, pilot books, almanacs, tidal atlases.
- **Plan B** – A second option in the event of an emergency.
- **Victualing** – Organize sufficient food and provisions for the crew and the length of trip.
- **Boat Checks** – Ensure the boat is in good working order and that you carry spares.
- **Communications** – Internet, radio, EPIRB, SART, VHF, mobile phones, batteries.
- **Dangers** – Be aware of potential threats to the boat.

2

EXECUTION

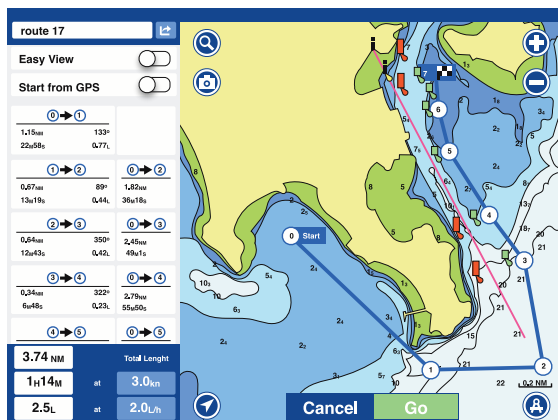
COURSE SHAPING

When entering or leaving a PORT or HARBOUR, the tide may alter your course. Use a **TRANSIT** to ensure you stay on course.



Passage Planning

NAVIONICS™



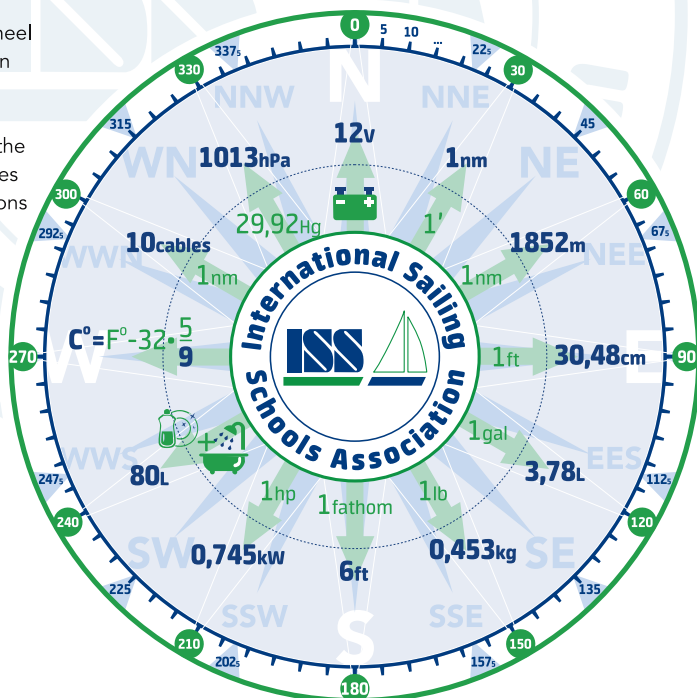
Electronic charts are very useful. There are many software providers, some using only one sort of chart and others able to use several. The ability to use multiple types of charts, including those used by dedicated chartplotters, is probably the ideal.

You can download the software onto your smartphone or iPad/tablet.

ISSA WHEEL OF USEFULNESS

You may find the ISSA Wheel of Usefulness helpful when planning your passage.

The wheel is shaped like the face of the clock it provides you with various conversions and useful information.

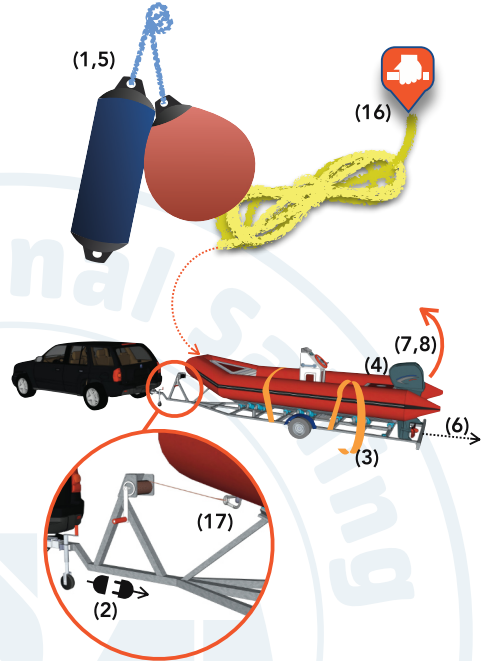


Launching & Recovering

BOAT LAUNCHING

Before the boat ramp

1. Put all the necessary equipment and supplies to the boat. **Remember about safety equipment.**
2. Disconnect trailer lights from the towing vehicle.
3. Remove all tie-down straps but leave the trailer winch cable securely attached to the vessel.
4. Put the drain plug in place.
5. Attach the mooring line and fenders to the boat.
6. Disassemble the trailer towing lights (if necessary, depending on the trailer)
7. Make sure your engine is up (for boats with outboard engines and stern drives)
8. Check the battery on the boat (you don't want to be stuck after launching)

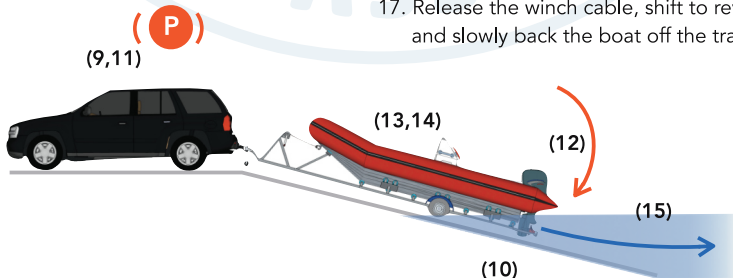


On the boat ramp

9. Make sure that you have a clear way. Especially make sure that no person is behind the boat and that no other boat in the water is in your path.
10. Go as far down the ramp to ensure that you can lower your engine into the water.
11. Set on the parking brake of the towing vehicle.

Actual launching

12. Lower the engine or stern drive.
13. Turn on the bilge blower to remove any gasoline fumes that may have accumulated there.
14. Start the engine and wait for it to warm up.
15. Move the trailer further back into the water until the boat starts to float.
16. As a precaution secure the loose end (not attached to the boat of the mooring line somewhere on the shore; ideally if a second person would hold onto it).
17. Release the winch cable, shift to reverse and slowly back the boat off the trailer.



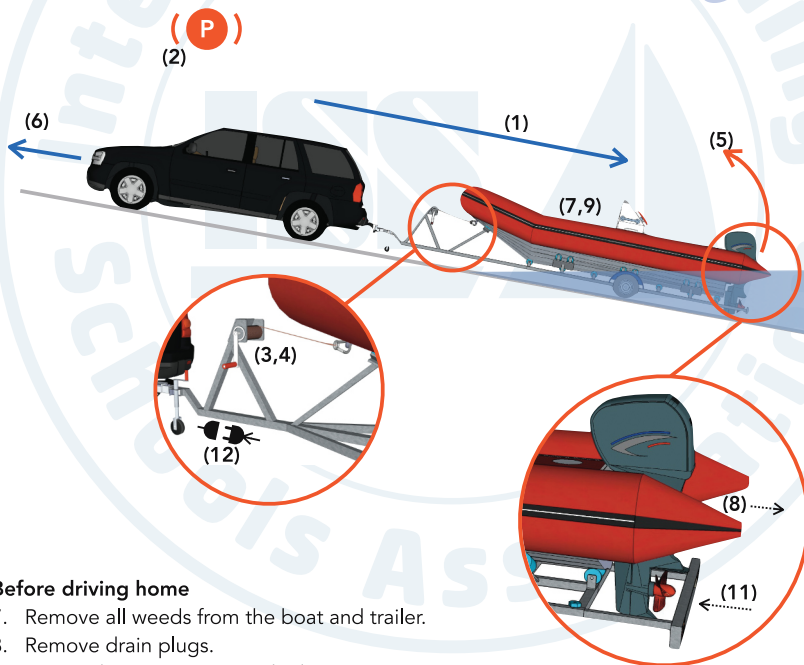
BOAT RECOVERING

On the boat ramp

1. Go as far down the ramp with your trailer to ensure that most of the rollers or bunks are submerged in the water.
2. Set on the parking brake of the towing vehicle.
3. Approach the trailer with the boat close enough to attach the winch cable.
4. Pull the boat onto the trailer with the winch. Make sure the boat properly comes on top of the rollers or bunks.
5. Shut off and raise the outboard engine or stern drive.
6. Drive off the ramp with the boat on the trailer.

Do not load a boat using its engine power

Stay out of the direct line of the winch cable. It might be dangerous if it snaps.



Before driving home

7. Remove all weeds from the boat and trailer.
8. Remove drain plugs.
9. Secure the equipment on the boat or remove it.
10. Strap the boat to the trailer.
11. Assemble the trailer towing lights (if necessary, depending on the trailer)
12. Connect trailer lights with the towing vehicle.

Electronics

KNOW YOUR SYSTEM

The modern yacht is fitted with several sensors and instruments with display units. The major instruments on a yacht are:

- GPS
- Depth Sounder
- Log
- Electronic Compass
- Chart Plotter

GPS - GLOBAL POSITIONING SYSTEM

Handheld or mounted GPS devices are a must for any sailing boat today.

They provide reliable position fixing using Lat./Long. co-ordinates provided by 27 satellites orbiting the earth.

Waypoints for a route can be entered and distance/bearing from the boat to the destination are calculated in real-time and displayed on the device.

DEPTH SOUNDER

Depth sounders are fitted under the hull or are handheld. They can display the depth in meters or feet of the sea beneath the hull.



If fitted under the hull, they need to be calibrated to either the bottom of the hull or the surface of the sea.

The sensor should be regularly cleaned of barnacles.

On a new boat, inquire about the calibration of the sounder to avoid confusion.

ELECTRONIC LOG

The modern yacht is fitted with low power instruments that record depth and speed.

The Speed/Log records the water track speed. It is wired to the main ship computer and then to the multi display in the cockpit.

The small wheel sensor can get clogged and it should be carefully checked and be cleaned weekly.



ELECTRONIC COMPASS

The Electronic Compass display complements the standard magnetic compass but does not replace it.

It is mostly used in conjunction with the auto-pilot for keeping a bearing based on a compass course.

It can be calibrated to display True or Magnetic course.



iPAD / TABLET

These devices can be used to access navigational, pilotage, weather information all over the world by accessing the internet or by installing software such as 'Navionics'.



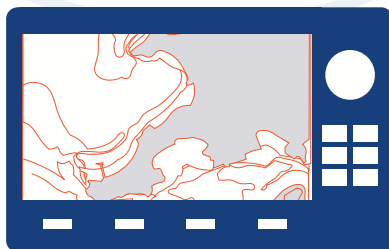
CHARTPLOTTER

Chart plotters are multi function devices with built-in digital maps of specific sailing areas.

In conjunction with GPS, they allow the skipper to set waypoints, routes, keep track of the ships course.

Chart plotters allow for sailing regions to be zoomed to and display details not normally found on paper charts.

Small screen size can however hinder danger zones.





Environmentally Responsible Sailing

Holders of the International Sailing Schools Association **certificates** are the **elite** that knows how to sail safely and should also **care about the environment**. Help us promote Environmentally Responsible Sailing and preserve the nature for future sailors generations **by applying these few simple rules**.

Segregate garbage for recycling purposes wherever possible



Recycling is an alternative to "conventional" waste disposal that can save material and help lower greenhouse gas emissions. Recycling prevents the waste of potentially useful materials and reduce the consumption of fresh raw materials, thereby reducing: energy usage, air pollution (from incineration), and water pollution. Search for segregated garbage bins in every marina.

Leave any beach or shore line you visit cleaner than when you arrived.

Leisure sailing can take you to many beautiful, paradise-like places. The community of sailors grows every year and it is constantly harder and harder to visit places untouched by a human hand. Some people do not regard that as a value and leave their trash behind them there. React and help to keep those places safe.



Strictly enforce no waste being thrown overboard.



This is not even a matter of ecology but personal culture. Oceans and seas are huge, but that does not mean that Another piece of paper thrown into the water does not make a difference. It does. It is your attitude that matters.



On inland waters, all of the above also applies to the toilet. You cannot dump the contents of the feces tank or the feces themselves into the water.

Educate sailing guests on the ecology of the sea and shore.

You are the skipper. It is your responsibility to educate your crew on how to properly behave during your leisure yachting experience.



TEST QUESTIONS



- 1 You see a **RED rocket** flashing in the sky. What does that mean?

- ☐ A It's a distress signal
☐ B There is a party
☐ C It does not mean anything



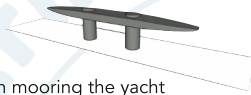
- 2 What is the difference between a Life Jacket and a **Personal Floatation Device (PFD)**?

- ☐ A None. Those are alternatives.
☐ B There is no such a thing as a PFD
☐ C PFD will not keep the unconscious person's head above water.



- 3 What is it and what is it for?

- ☐ A Tiller - helpful when mooring the yacht
☐ B Handle - to hold on to while boarding the yacht
☐ C Horn cleat - used for attaching lines



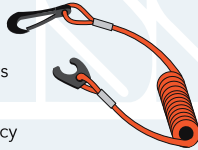
- 4 What **color** is the light indicated in the drawing with a question mark?

- ☐ A White
☐ B Red
☐ C Green



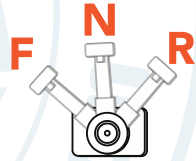
- 5 What is it?

- ☐ A Type of key ring - secure fastening for the yacht keys
☐ B Kill cord used to turn off the engine in an emergency
☐ C One of the electrical cables attached to the battery together with the terminal



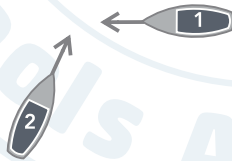
- 6 At **what gear** do you **start** the engine?

- ☐ A Forward
☐ B Neutral
☐ C Reverse



- 7 Which one is a **give way** vessel?

- ☐ A 1
☐ B 2
☐ C None of them



- 8 You sail **up the river** and see this mark. Which **side** will you pass it by?

- ☐ A Port
☐ B Starboard
☐ C It does not matter

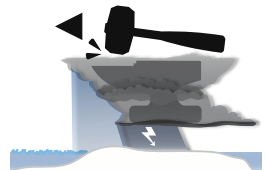


- 9 What is the **most important** piece of advice for the skipper in the **MOB** situation?

- ☐ A Keep calm and go get him fast.
☐ B Don't worry. Close to shore waters are mostly shallow, warm and safe. He'll be fine.
☐ C Mind the wind direction.

- 10 What is the name of the following cloud?

- ☐ A Cirrus
☐ B Altocumulus
☐ C Nimbostratus
☐ D Cumulonimbus





Operational Checklist

As a Skipper (in training) you should implement the operational process below to ensure safe use of the vessel. Familiarize yourself with the vessel and her equipment.

ISSA has provided you with the following checklist to assist you in the process.

1. As Skipper you should:

- Prepare a Passage Plan (if appropriate)
- Obtain an up to date Weather Forecast
- Collect navigation equipment (Charts etc.)
- Check all safety equipment location

2. Pre-departure boat checks:

- **Above Deck**
- **Below Deck**
- **Engine Checks**
- **Generator Checks**
- VHF Radio Check
- Lines and Fenders Checks
- Safety Equipment Checks

ABOVE DECK

- ▶ Guardrails
- ▶ MOB life ring with light
- ▶ Anchor and anchor winch
- ▶ Engine throttle control lever

BELOW DECK

- ▶ Batteries (electrolyte level, terminals and voltage)
- ▶ Bilge (Ensure dry) Check Bilge pumps and float switches
- ▶ Safety equipment (lifejackets, harness lines, first aid, fire extinguishes, flares, VHF, Navigation equipment, spare anchor, spare lines, fenders, tools and spare parts, EPIRB, SART, torches, fog horn, bungs, bucket, day shapes.
- ▶ Ensure everything stowed safely ready for going to sea
- ▶ Hatches are closed and secure
- ▶ Engine and gearbox (See below for checks)
- ▶ Electronics (GPS- chartplotter, VHF, nav lights, radar AIS, bilge pumps, water pump, Instruments)
- ▶ Heads
- ▶ Galley equipment and cooker
- ▶ Seacocks and hoses
- ▶ Fresh Water tanks and fuel tank levels

3. Crew Briefing:

- Personal Safety briefing
- Boat Safety Plan
- Action to be taken in an emergency
- How to stop and start the engine
- Location of the sea cocks
- Fire Brief
- Action to take in a MOB situation
- How to use the heads
- Where VHF is and how to use it

ENGINE CHECKS

- ▶ Batteries (electrolyte level, terminals, wiring and voltage)
- ▶ Engine Mounting is secure
- ▶ Engine bilge is dry from oil and water
- ▶ Belts are tight and free from damage
- ▶ All hoses in good condition and securely fastened
- ▶ All electrical connections are clean and secure
- ▶ Engine oil and gearbox oil level is correct and oil is not black
- ▶ Raw water seacock is open and hoses secure
- ▶ Fuel tank filled and fuel valve open
- ▶ Primary fuel filter/Water strainer doesn't have water at bottom.
- ▶ Engine housing for damage

GENERATOR CHECKS

- ▶ Observe for obstructions around stern of vessel
- ▶ Throttle lever in Neutral
- ▶ Turn on ignition
- ▶ Start with key or button
- ▶ Ensure cooling water and exhaust gases are being expelled at stern
- ▶ Observe electronics panel for warning lights or alarms
- ▶ Check ahead and astern gears
- ▶ Leave engine to warm up
- ▶ Check for leaks on all cooling, fuel, oil and exhaust system

4. Provisioning check:

- Water and drinks
- Food and snacks. Enough for 100% of Passage + 20%
- Grab bag prepared
- Medical supplies
- Adequate clothing for any weather conditions

5. Before leaving port, remember:

- Weather forecast and tidal information
- Crew list and relevant documents
- Passage Plan
- Contact relevant authorities (Harbour master, Immigration, Customs)
- Leave information ashore

6. When returning to port, remember:

- Boat correctly moored and fendered
- Fuel and water tanks refilled
- Rinse boat with fresh water
- Safety equipment dried and stowed
- Tidy all lines
- All electrics turned off and batteries off (Cover instruments)
- Check no water in the bilge
- Check seacocks closed
- Check fuel system and turn off fuel valve
- Fridge left open to air
- Lock hatches and washboard



EXERCISE 2

Please make your own pre-departure check lists now.
Write down the 6 most important items, in your opinion, to be checked

ABOVE DECK CHECK LIST

- 1.....
- 2.....
- 3.....
- 4.....
- 5.....
- 6.....

BELOW DECK CHECK LIST

- 1.....
- 2.....
- 3.....
- 4.....
- 5.....
- 6.....



Topics Checklist

INLAND POWER YACHT SKIPPER

THEORETICAL TOPICS

- ☐ Yacht construction
- ☐ Engine handling
- ☐ Lines and springs
- ☐ Handling fenders
- ☐ Anchoring
- ☐ Safety
- ☐ Crew management
- ☐ Handling yacht under power
- ☐ Man over board
- ☐ CEVNI regulations
- ☐ Pilotage
- ☐ Collision regulations
- ☐ Navigational aids
- ☐ Navigating in restricted visibility
- ☐ Electronic-based navigation
- ☐ Passage planning
- ☐ Logbook
- ☐ International signaling code
- ☐ Meteorology
- ☐ Other skills (ecology, social skills)
- ☐ Pulling a skier or an object*

PRACTICAL TOPICS

- ☐ Basics of safe onboard operations
- ☐ Safe operation of elementary yacht's systems
- ☐ Water supply system
- ☐ Fuel supply system
- ☐ Elementary yacht sailing equipment and how to use it
- ☐ Operating the inboard engine
- ☐ Inboard engine troubleshooting
- ☐ Operating the outboard engine
- ☐ Outboard engine troubleshooting
- ☐ Knots
- ☐ Lines handling
- ☐ Safe fenders handling
- ☐ Safety issues when using an anchor
- ☐ Anchoring with the crew
- ☐ Safe anchoring
- ☐ Handling emergency situations
- ☐ Safety briefing
- ☐ Crew management in various situations
- ☐ Safe handling of the yacht under power
- ☐ M.O.B. approach under power
- ☐ Recovering M.O.B.
- ☐ Basic pilotage rules and sources of information on inland waters
- ☐ Basic passage planning rules
- ☐ Practical skills in meteorology
- ☐ Safety procedures for pulling a skier or an object*

* PULLING A SKIER OR AN OBJECT might be considered an additional module to the ISSA Inland Power Skipper based upon the ISSA accredited school's discretion.

NAME _____

This is to certify that the student, _____
has an understanding of the above topics and has achieved the level of INLAND POWER YACHT
SKIPPER.

Instructor _____

Date _____

Instructor's signature _____

ISSA Logbook

The tradition of ISSA logbooks dates to its beginnings

From the very beginning, ISSA was involved in setting standards in teaching sailing school students as well as training instructors. An international team has developed model patterns of seaman books (logbooks) that can still be found in many organizations in Europe and around the world - see photos below.

Also this new logbook in an unprecedented, but extremely convenient to fill in format 'horizontal A5' was created thanks to international cooperation.



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