



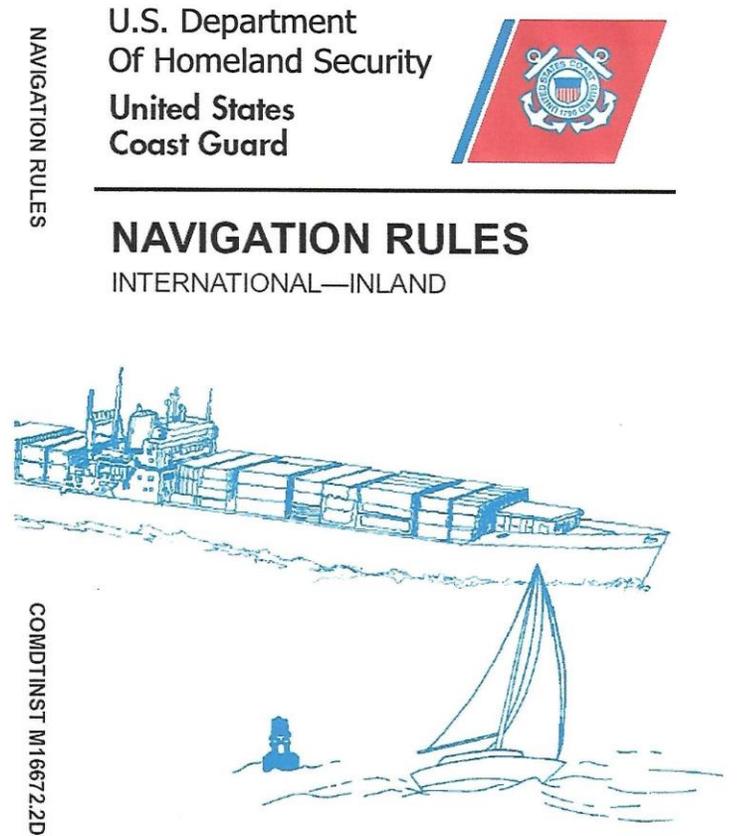
Laguna Woods Yacht Club

Introduction to Sailing, February-March 2022

Safe Navigation: Introduction to the Rules of the Road and Aids to Navigation

Rules of the Road

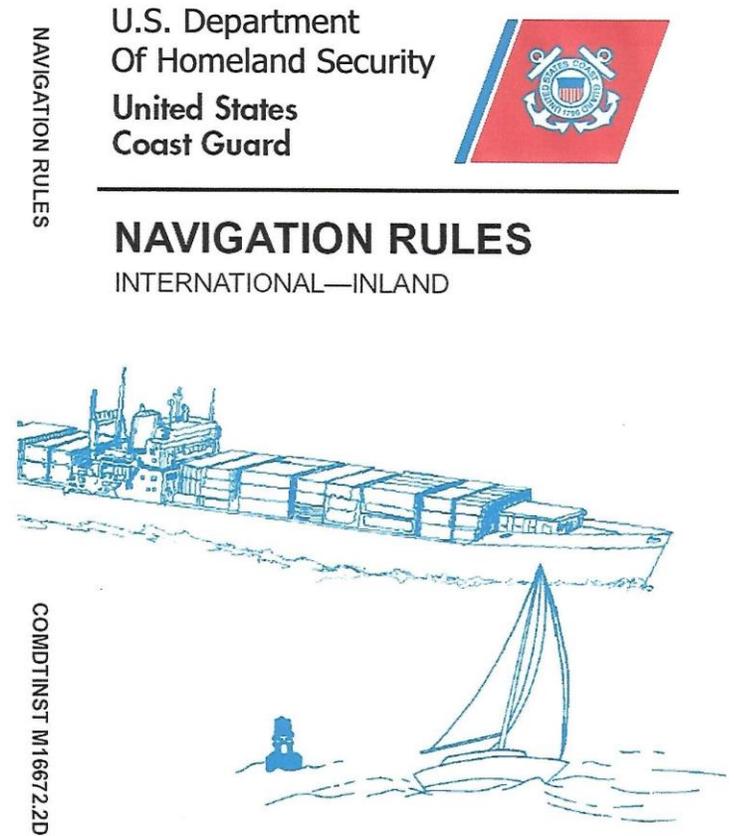
A system of rules created to avoid collisions at sea



Rules of the Road

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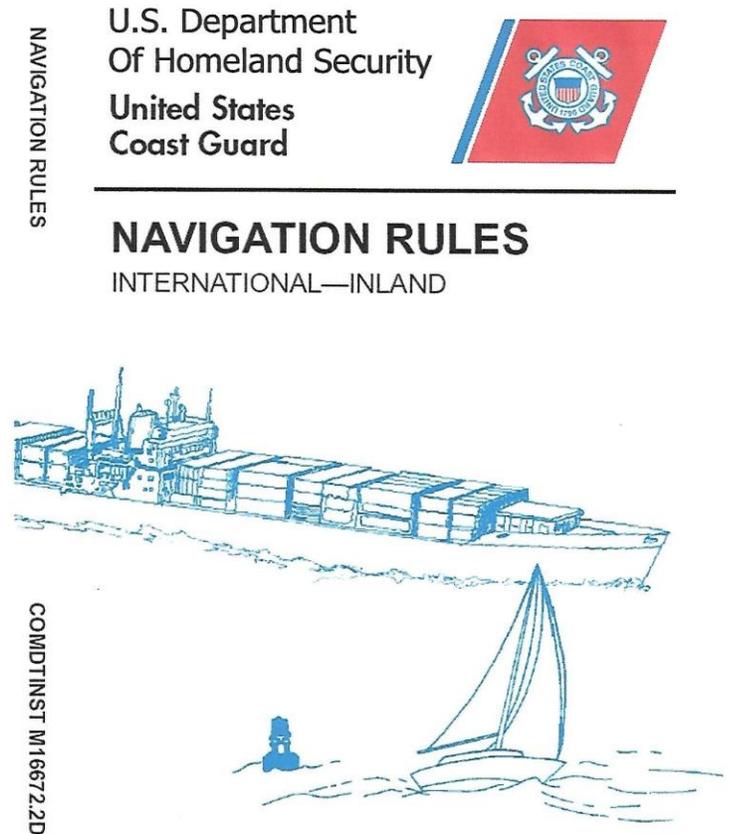
➤ A nautical counterpart to the Vehicle Code



Rules of the Road

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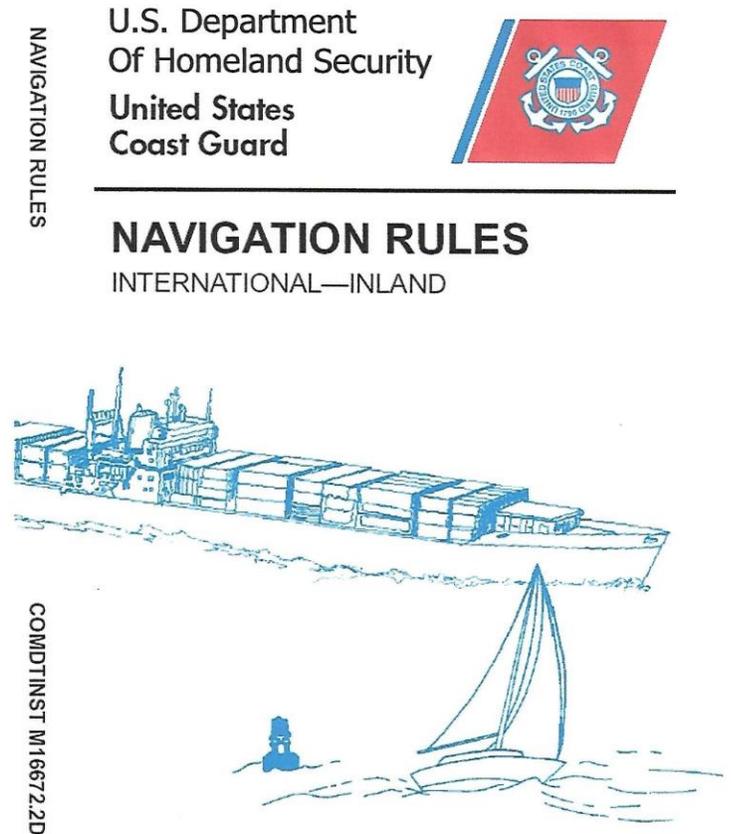
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- Prescribes necessary safety and signaling equipment for vessels and establishes right of way rules for safe navigation



Rules of the Road

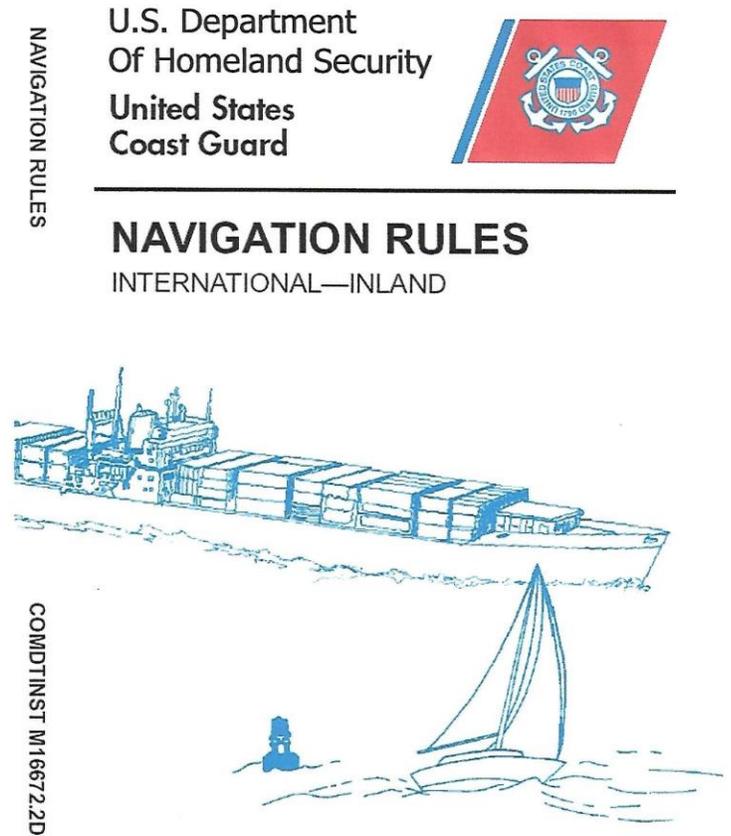
A system of rules created to avoid collisions at sea.

- A nautical counterpart to the Vehicle Code
- Prescribes necessary safety and signaling equipment for vessels and establishes right of way rules for safe navigation
- Applies to virtually all watercraft, from container ships to small sailboats



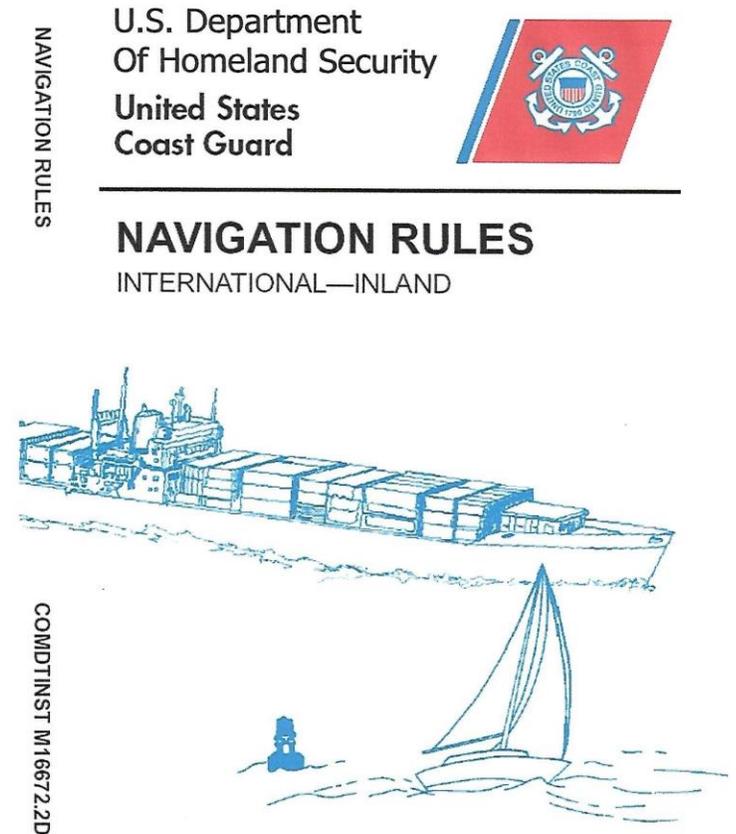
Today's objectives:

1. Learn some basic right of way rules that will cover almost any situation you're likely to encounter on day sails from Dana Point; and
2. Learn some basic buoys and markers and what they mean.



Part 1: Who has the right of way?

Unlike motor vehicles, vessels aren't constrained by physical roadways, so special right of way rules have been created to prevent collisions.



Right of way at sea – basic concepts

The right of way rules are lengthy and comprehensive.

For now, be aware of these basic concepts:



Right of way at sea – basic concepts

- Follow the “Lookout Rule.” Aboard any vessel ***keep your eyes and ears open***, and don’t be shy about pointing out hazards such as other vessels or objects in the water.



Right of way at sea – basic concepts

- Follow the “Lookout Rule.” Aboard any vessel keep your eyes and ears open, and don’t be shy about pointing out hazards such as other vessels or objects in the water
- **Be aware of your surroundings and be prepared to take action early to avoid accidents. Be prudent – *don’t insist on asserting the right of way if doing so would make an accident more likely.***



Right of way at sea – basic concepts

- Follow the “Lookout Rule.” Aboard any vessel keep your eyes and ears open, and don’t be shy about pointing out hazards such as other vessels or objects in the water
- Be aware of your surroundings and be prepared to take action early to avoid accidents. Be prudent – don’t insist on asserting the right of way if doing so would make an accident more likely
- **Above all, drive defensively. *“The right of way goes to the vessel with the least competent crew.”- Mike Baiocchi***



Right of way at sea – from theory . . .

The right of way is based on a **hierarchy of privilege** among vessels. (This will be covered in more detail in the Intermediate class.)



Right of way at sea – from theory . . .

For now, just remember this general concept:

Less maneuverable vessels are given privilege over ***more*** maneuverable vessels.



Right of way at sea – from theory . . .

Why?

It's easier for the more maneuverable vessel to get out of the way.



... to practice

When vessels are converging, the rules designate a “stand on” vessel and a “give way” vessel

- ✓ Duty of the *stand on vessel*: **maintain course and speed**
- ✓ Duty of the *give way vessel*: **take early and decisive action to alter course**



Right of way problems aboard Hiatus generally arise in these situations:

- sail vs. sail
- sail vs. power
- power vs. power
- overtaking vessels



Sail vs. Sail



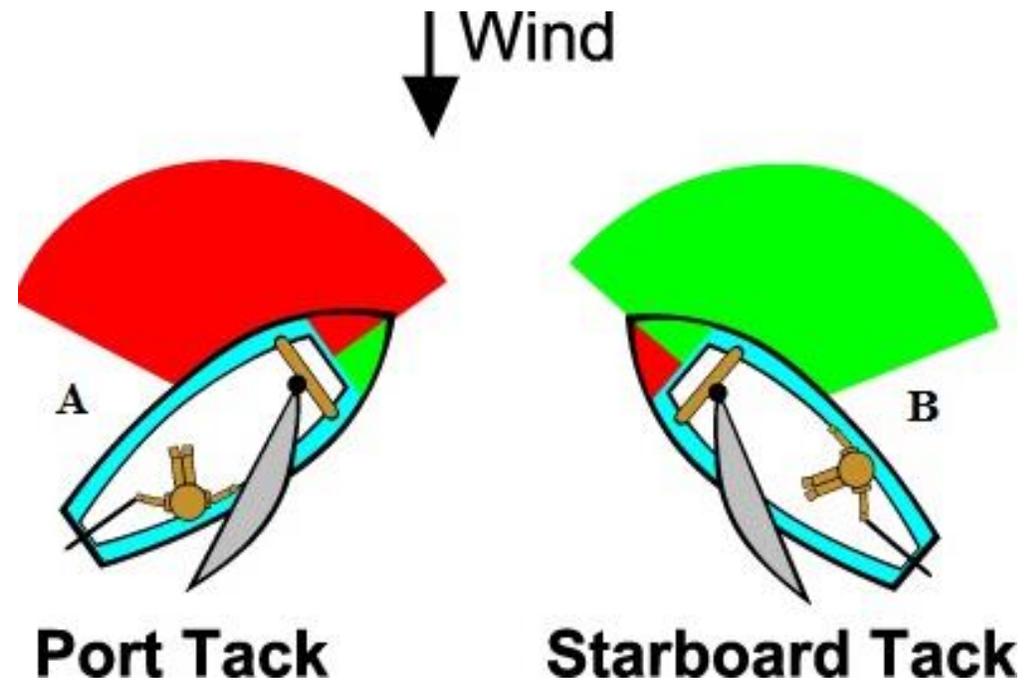
Sail vs. Sail - vessels on different tack

When sailboats converge on different tacks, right of way will depend on what tack the boats are on.

Tack can be determined by the position of the boom.

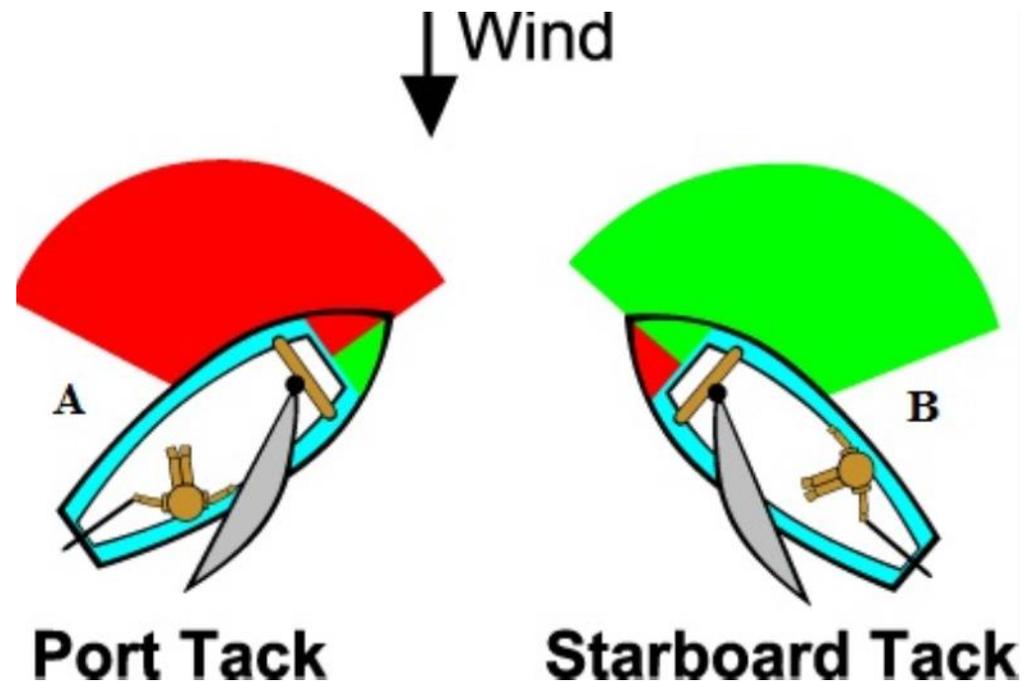
(A) Boom to starboard = **port tack**

(B) Boom to port = **starboard tack**



Sail vs. Sail - vessels on different tack

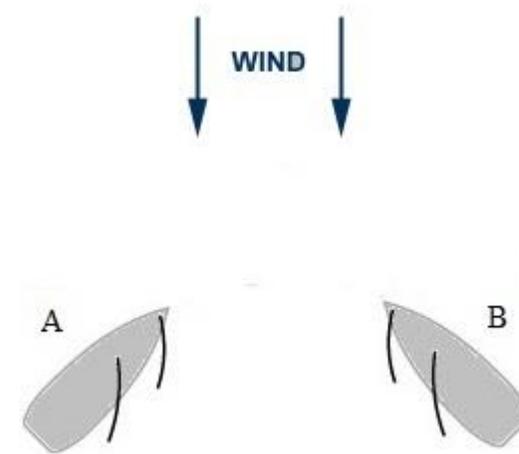
- **RULE:** When sailboats are crossing on different tacks, the sailboat on starboard tack has the right of way.



Sail vs. Sail - vessels on different tack

QUESTION:

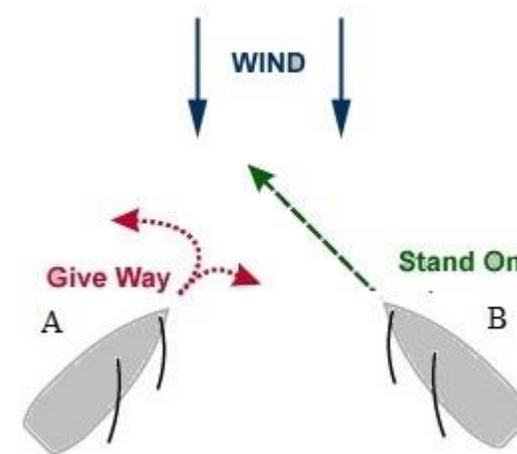
- Which sailboat has the right of way?



Sail vs. Sail - vessels on different tack

ANSWER:

➤ B

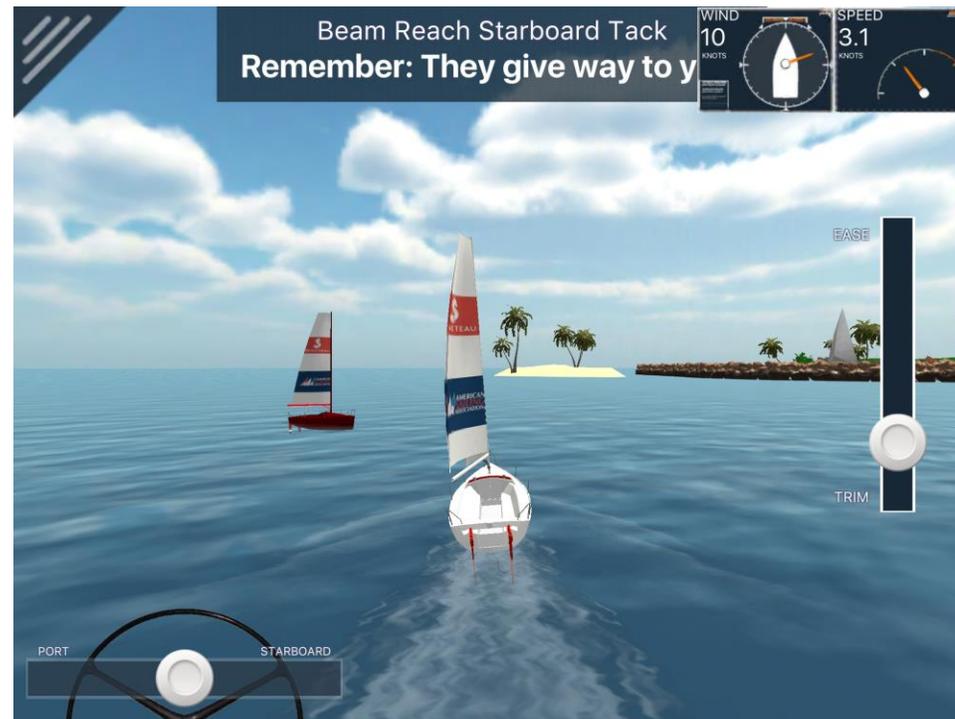


Sail vs. Sail - vessels on different tack

Here's what this might look like:

These boats are on different tacks.

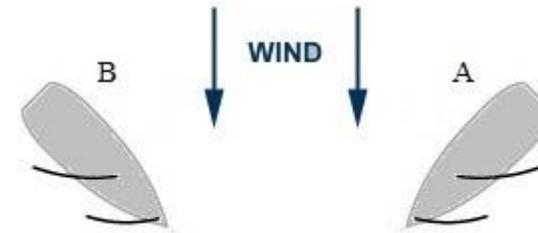
Our boat is on **starboard tack** and the other vessel is on **port tack** so we have the right of way and the other vessel must give way.



Sail vs. Sail - vessels on different tack

QUESTION:

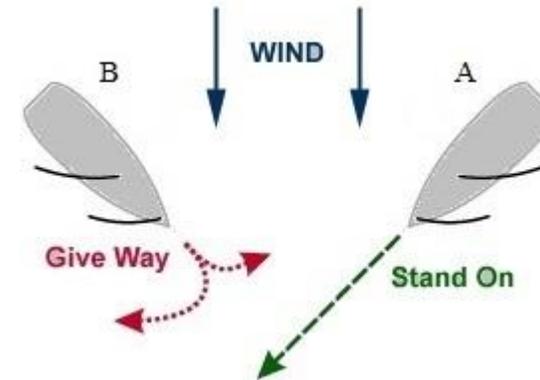
- Which sailboat has the right of way?



Sail vs. Sail - vessels on different tack

ANSWER:

➤ A



Sail vs. Sail - vessels on different tack

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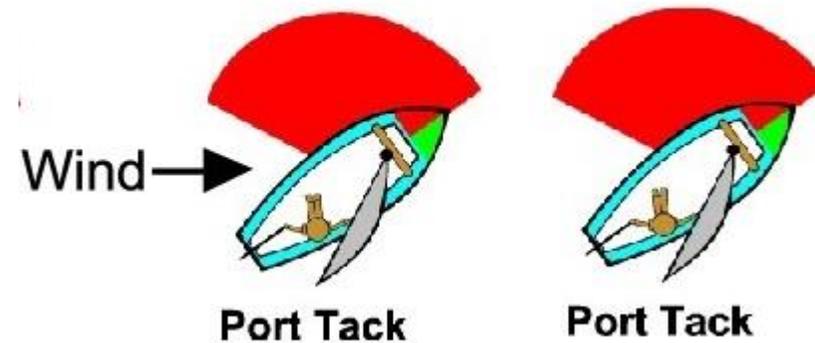
These boats are on different tacks

Our boat is on **port tack** and the other vessel is on **starboard tack** so we must give way.



Sail vs. Sail - vessels on same tack

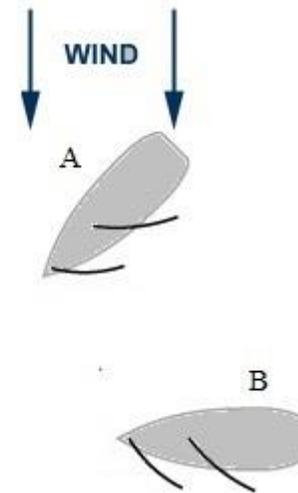
- **RULE:** When sailboats are crossing on the same tack, the sailboat to leeward has the right of way



Sail vs. Sail - vessels on same tack

QUESTION:

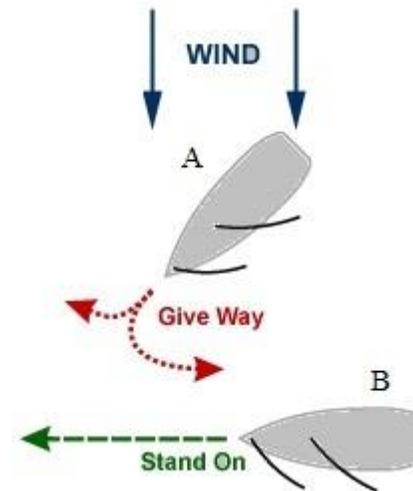
- Which sailboat has the right of way?



Sail vs. Sail - vessels on same tack

ANSWER:

➤ B



Sail vs. Sail - vessels on same tack

Here's what that might look like:

Note both boats are on **starboard tack**

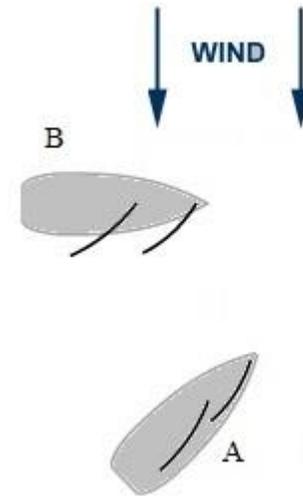
Our boat is downwind of the other boat so we have right of way



Sail vs. Sail - vessels on same tack

QUESTION:

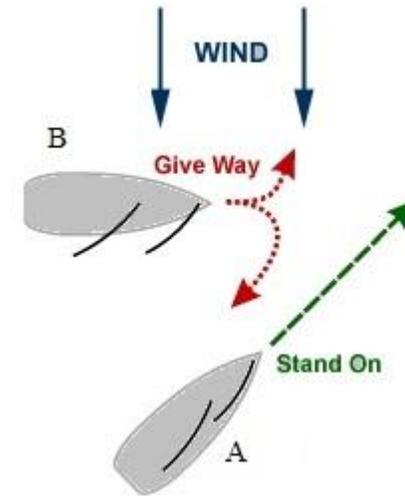
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Sail vs. Sail - vessels on same tack

ANSWER:

➤ A

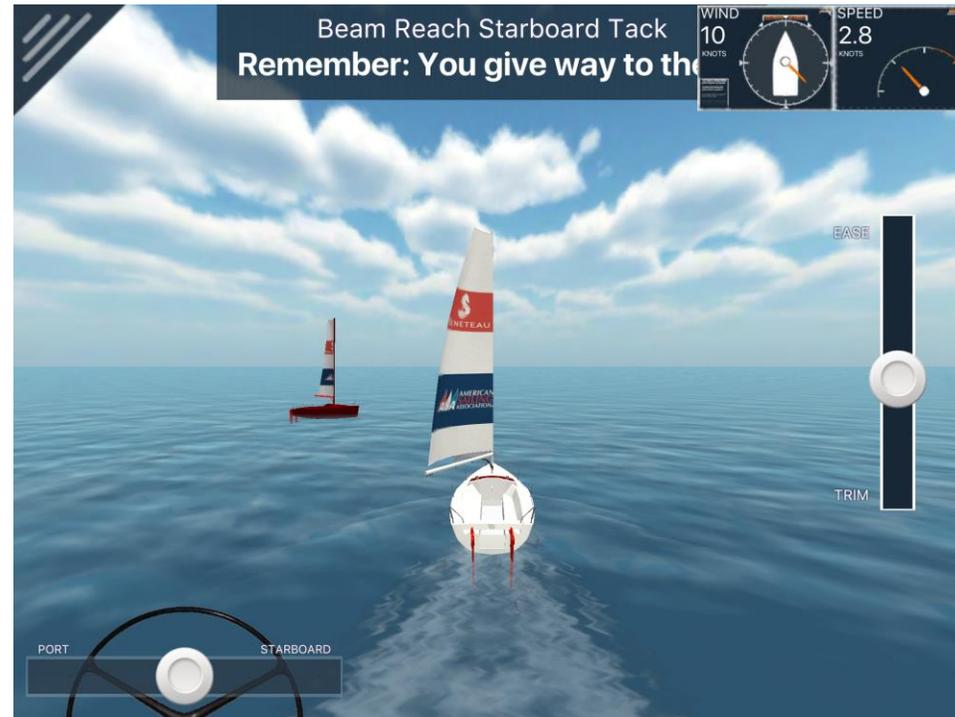


Sail vs. Sail - vessels on same tack

Here's what that might look like:

Note both boats are on **starboard tack**

Our boat is upwind of the other boat so it has the right of way and we must give way



Sail vs. Sail - vessels on different tack

Nice work! You've mastered the right of way rules for sailboats crossing on different tacks.

Now here's an example of what NOT to do. How many right of way violations can you spot in the following clip?





Sail vs. Sail - vessels on different tack

Name two violations of the rules of the road

1. _____

2. _____

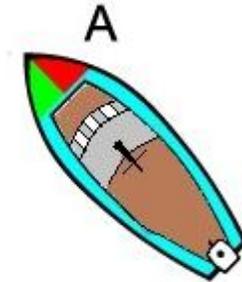
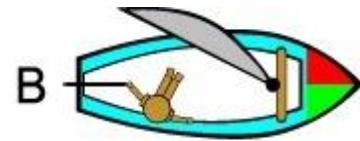


Sail vs. Power



Sail vs. power - crossing

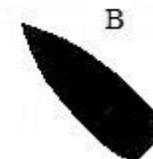
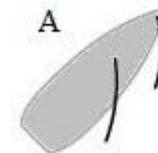
- **RULE:** When a sailboat and a powerboat are crossing, the sailboat has the right of way



Sail vs. power - crossing

QUESTION:

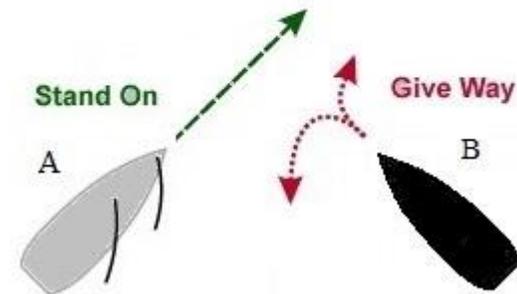
➤ Which vessel has the right of way?



Sail vs. power - crossing

ANSWER:

➤ A



Power vs. Power





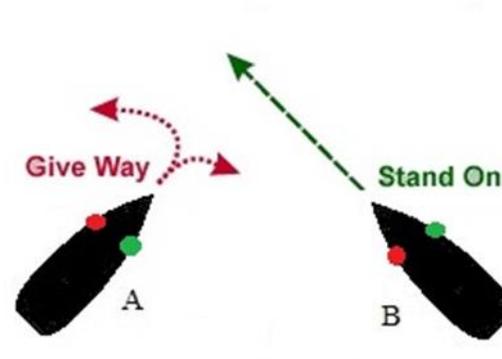
RIDDLE: When is a sailboat not a sailboat?

When a *sailboat is using its engine*, it is considered a powerboat and must follow powerboat rules even if the sails are up.



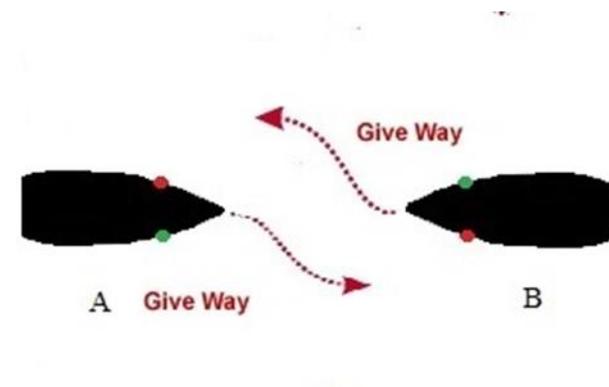
Power vs. Power - crossing

- RULE: When two powerboats are crossing the boat to starboard has the right of way



Power vs. Power – head to head

- RULE: When two powerboats are approaching head to head, each boat gives way to starboard

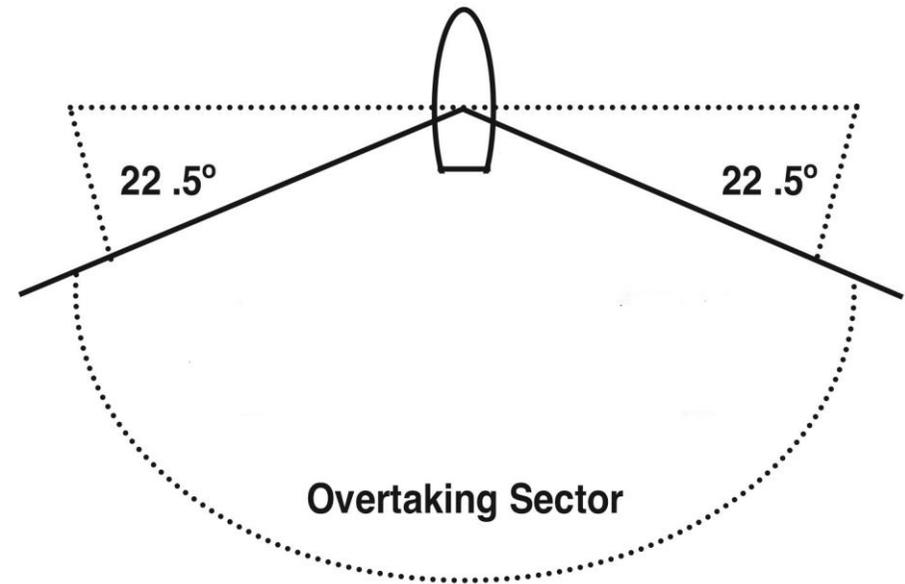


Overtaking



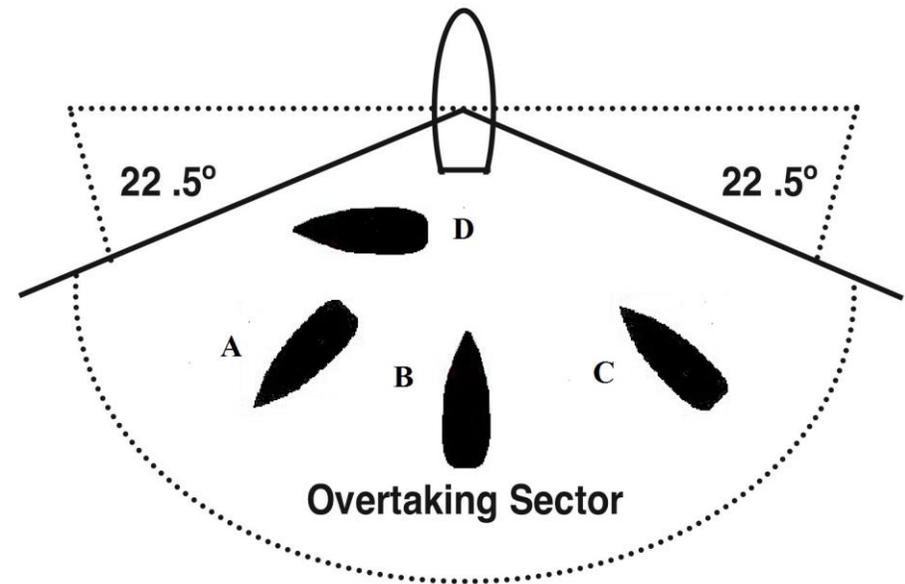
Definition of overtaking

NOTE: You are overtaking another vessel if you are **approaching** anywhere within the overtaking sector.



Definition of overtaking

Question: Which two vessels are overtaking -
- A and D, or B and C?

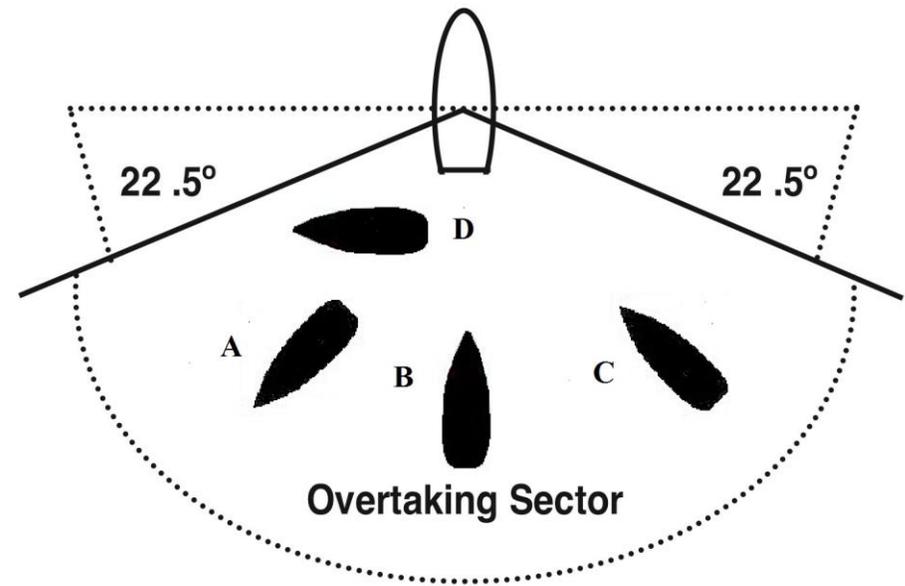


Definition of overtaking

Answer:

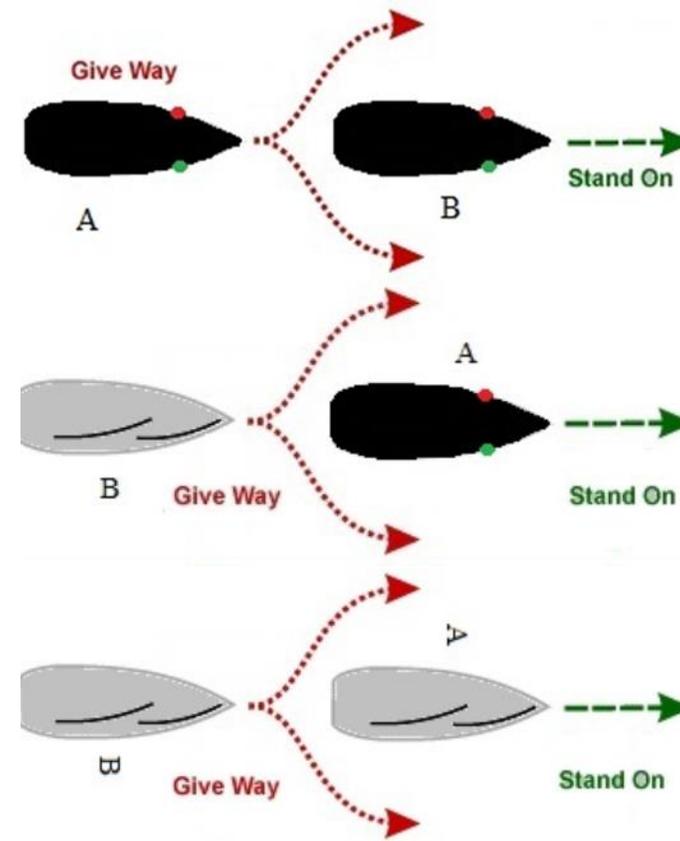
➤ B and C

Note: all four vessels are in the overtaking sector, but only B and C are approaching



Overtaking

- RULE: When one vessel is overtaking another, the overtaking vessel must give way
- IMPORTANT – The rule is the same for sail vs. sail, sail vs. power and power vs. power. The overtaking boat must give way.





Summary

- **Remember the common sense principles underlying right of way rules: Keep a good lookout, be prepared to take early action to avoid collisions and act prudently and defensively.**





Summary

- Remember the common sense principles underlying right of way rules: Keep a good lookout, be prepared to take early action to avoid collisions and act prudently and defensively.
- **Remember that an underlying theory of right of way rules is to give way to less maneuverable vessels.**





Summary

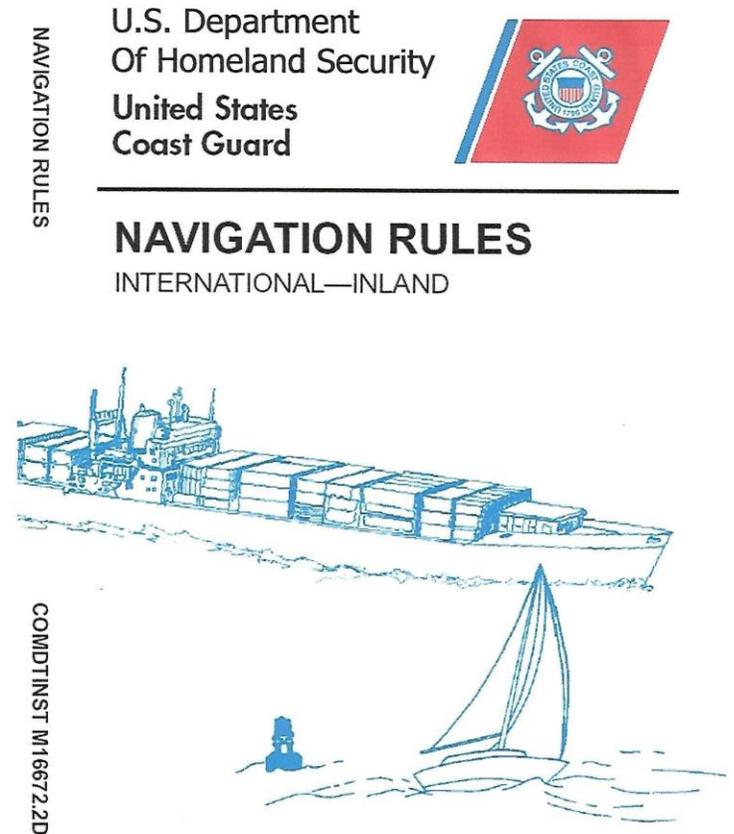
- Remember the common sense principles underlying right of way rules: Keep a good lookout, be prepared to take early action to avoid collisions and act prudently and defensively.
- Remember that an underlying theory of right of way rules is to give way to less maneuverable vessels
- **Study and understand the basic rules for sail vs. sail, sail vs. power, power vs. power and overtaking.**



Part 2: Aids to Navigation – “ATONS”

On our day sails we encounter a colorful assortment of buoys and other markers.

This unit introduces the basic types of ATONs and their meaning



Types of markers: Buoys

Buoys

Float on the surface, moored to the bottom

Some have lights, some do not

Three basic shapes:

- Buoy
- Can buoy
- Nun buoy



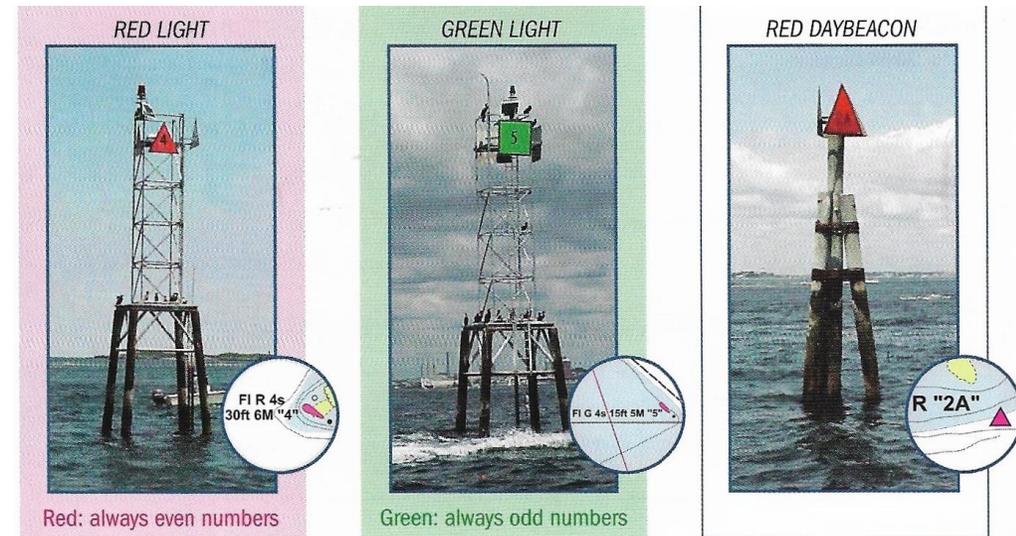
Types of markers: Lights and beacons

Lights

A light permanently fixed to the bottom or a jetty

Daybeacons

Beacons without a light



A Field Guide to Dana Point ATONs



Informational ATONs: hazards and restrictions

White and orange markers warn of danger, mark restricted areas and even tell you where to fuel up.



Informational ATOs: hazards and restrictions

Information and Regulatory Marks

These orange-and-white Aids are used to alert vessel operators to various warnings and regulations.

Symbol	Meaning	Examples
	Danger A diamond shape alerts boaters to hazards	 
	Restricted Operations Marks with a circle indicate areas with regulated operations	 
	Exclusion A diamond shape with a cross means boats are prohibited from the area	 
	Information Marks with a square provide helpful information such as directions, distances, and locations	 

Characteristics

- White with an orange horizontal band at both top and bottom.
- Black text within or around an orange square, circle, or diamond; or black text outside a diamond with an orange cross.
- May be buoys or beacons.



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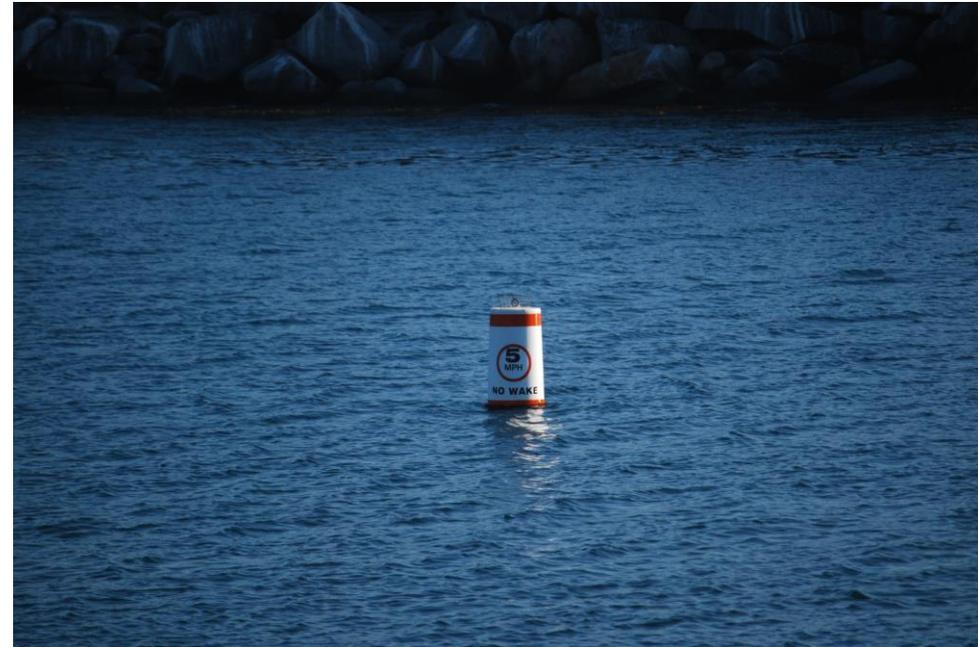
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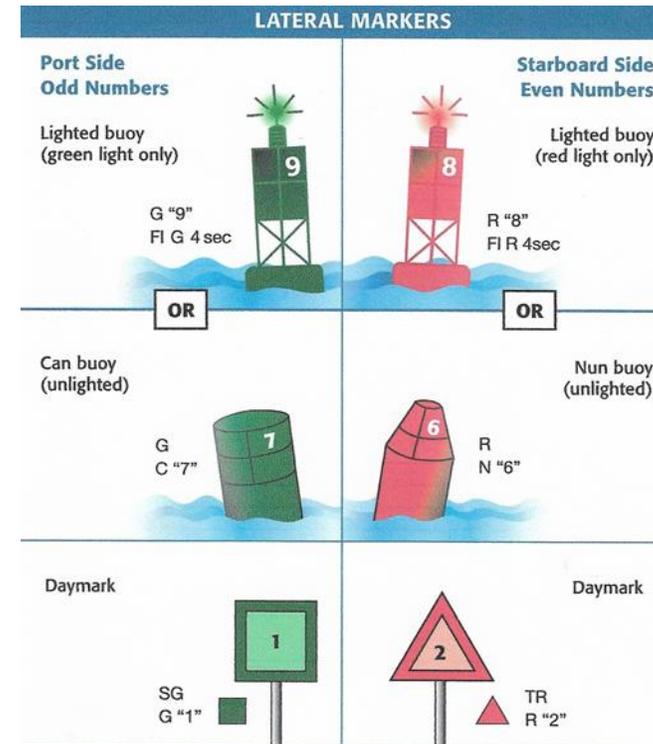
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Lateral Markers

These ATONs indicate the port and starboard side of the channel when entering the channel from outside the harbor. These may be buoys, cans or daymarks.

GREEN markers (with odd numbers) indicate the port side of the channel
RED markers (with even numbers) indicate the starboard side of the channel



Lateral Markers

When entering the harbor, remember the “three rs” of navigation.

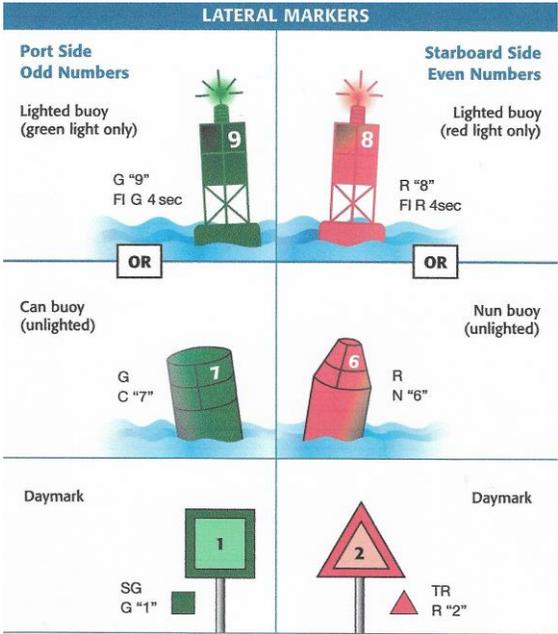
RED, RIGHT, RETURNING

That is, keep the **red** markers to your **right** when **returning** to the channel from the open ocean.

(Note: this applies in North America, Central America, South America, the Philippines, Japan and Korea. The reverse applies in Europe, Australia, New Zealand, parts of Africa and most of Asia.)



Dana Point lateral markers – the “red buoy”



Dana Point lateral markers – the red light/daybeacon

LATERAL MARKERS	
Port Side Odd Numbers	Starboard Side Even Numbers
Lighted buoy (green light only)  G "9" Fl G 4sec	Lighted buoy (red light only)  R "8" Fl R 4sec
OR	
Can buoy (unlighted)  G C "7"	Nun buoy (unlighted)  R N "6"
Daymark  SG G "1"	Daymark  TR R "2"

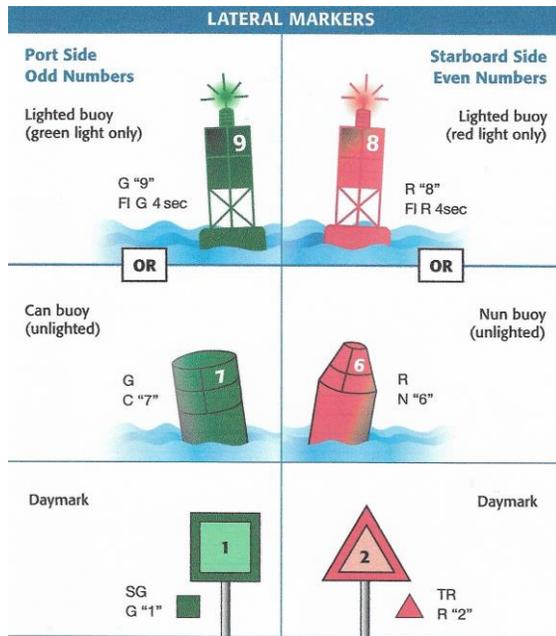


Dana Point lateral markers – the green light/daybeacon

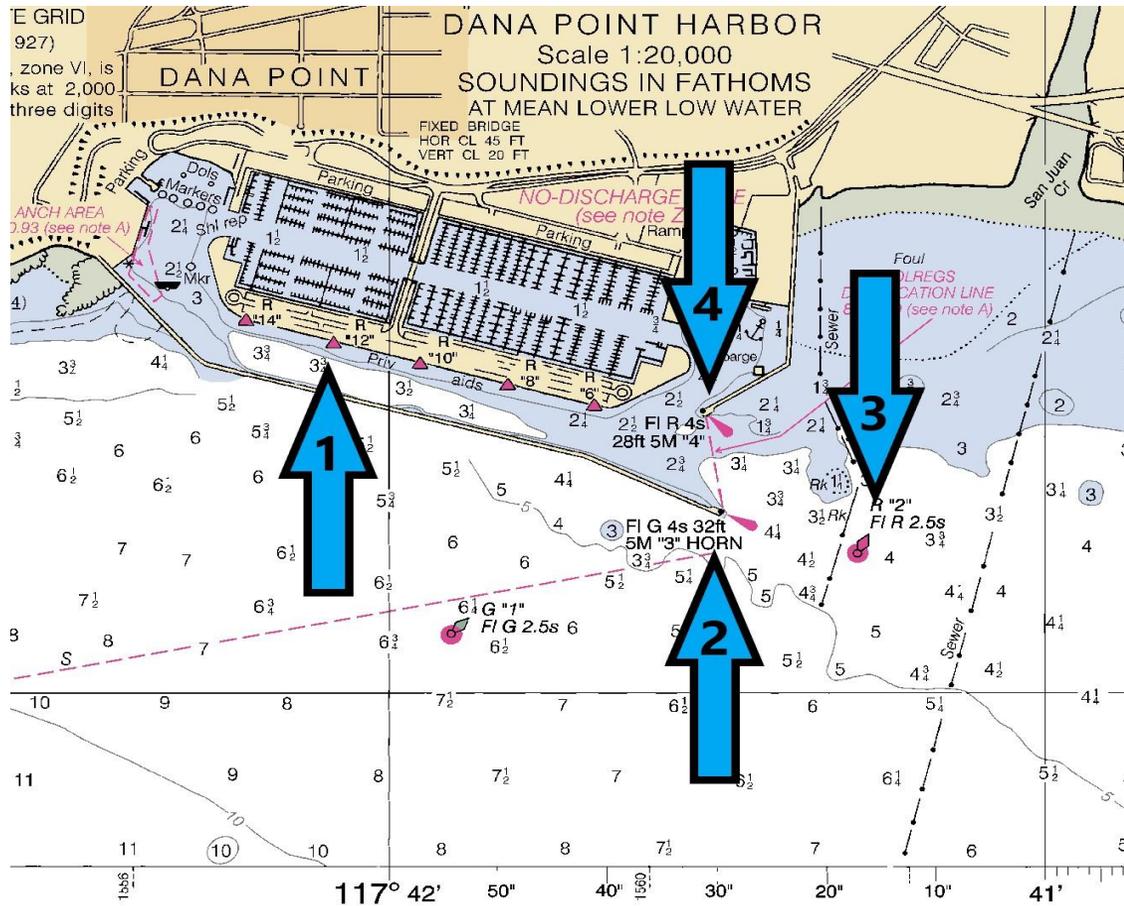
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<p>OR</p>	<p>OR</p>
<p>Can buoy (unlighted)</p>  <p>G C "7"</p>	<p>Nun buoy (unlighted)</p>  <p>R N "6"</p>
<p>Daymark</p>  <p>SG G "1"</p>	<p>Daymark</p>  <p>TR R "2"</p>



Dana Point lateral markers – daymarks



Match the numbered ATON with its name:



Red buoy

Red jetty light

Green jetty light

Daymarker



For further study

➤ Review *Sailing Made Easy* pp. 92-95

➤ *ASA Sailing Challenge App*



➤ International Regulations for Preventing Collisions at Sea

<https://www.navcen.uscg.gov/pdf/navRules/navrules.pdf>

➤ US Naval Academy Guide to Navigation Rules

https://www.usna.edu/Sailing/_files/documents/2019_OSTS_Documents/ROR.pdf

