



DECK WATCH OFFICER/NAVIGATION RULES PREPARATION GUIDE



U.S. Coast Guard Boatswain's Mate RKM Revised 05/2016

Purpose

This guide serves as a training aid to provide you with a general knowledge of Navigation Rules.

Important Note

This text has been complied for TRAINING ONLY. It should NOT be used in place of official directives or publications. The test information is current according to the references listed. Remember that it is YOUR responsibility to keep up with the latest professional information available for your rating.

Pamphlet Content

This pamphlet contains five lessons:

Lesson 1 Part A -- General

Lesson 2 Part B -- Steering and Sailing Rules

Lesson 3 Part C -- Lights and Shapes

Lesson 4 Part D -- Sound and Light Signals

Lesson 5 Part E -- Exemptions

Learning Objectives

Read the learning objectives before you begin reading the text. The objectives will guide you through the text and help you answer the questions in the self-quiz at the end of each lesson.

How the Course is Designed

This course is designed to turn your "Navigation Rules" book, COMDTINST M16672.2 (series), into a valuable study guide. It is not designed to take the place of studying the rules in the "Navigation Rules" book.

You will be instructed to highlight the main topics, underline the important information, circle the special key words or numbers, and add written comments and illustrations in your copy of the "Navigation Rules" book.

Learning what the rules are is just the beginning. You must also be able to **apply** this knowledge to a situation encountered on the water.

Special Terms

Before beginning, you need to remember that even though some **Inland Rules** may closely resemble the corresponding **International Rule**, many times the specific words used change the meaning of the rule entirely. The following words and phrases are used throughout the course and warrant special consideration:

- "May" A vessel has an option
- "Must" or "Shall" a vessel must comply
- "If Practicable" if circumstance or situation allows
- "Any" all or everything imaginable
- "Except" states some type of exclusion or waiver
- "Assume" or "Assumption" it is believed to be

Procedure

Follow these steps to properly complete this course.

Step	Action
1	Read each objective at the beginning of each lesson.
2	Read the pages in the "Navigation Rules" book given in the reading assignment.
3	Highlight, underline, or circle the text where indicated, and add whatever information the course pamphlet directs you to add on each page of the "Navigation Rules" book.
4	Review the objectives again at the beginning of the lesson and locate the information from the highlighted pages of the "Navigation Rules" book.

Your copy of the "Navigation Rules" book is now personalized to make it your source to study for the end-of-course test.

What Exam to Take

The following shows the exams available to you through the Coast Guard Institute. Choose the exam that meets the requirements for your watch station, position, or rating.

IF YOU ARE:	EXAM TITLE	MAINTAINED AT	PASSING SCORE	ORDERED BY
U/W OOD for all CUTTERS	DWINTO	CG INSTITUTE	90%	UNIT ESO
BM "A" SCHOOL STUDENT	DWINTO	CG INSTITUTE	90%	UNIT ESO
COXN' and all others	DWINTO	CG INSTITUTE	90%	UNIT ESO
Cutter OPS officers and OPS petty officers	DWINTO	CG INSTITUTE	90%	UNIT ESO
Within 5 years of DWINTO	DWINTR	CG INSTITUTE	90%	UNIT ESO

The DWO (DWINTO) test is administered closed book the first time you take it. If you achieve a passing score, each renewal DWO test will be administered open book via the DWINTR. You should make corrections in your book to keep your book up-to-date. To do this, the Navigation Rules FAQ (frequently asked questions) at the U.S. Coast Guard Navigation Center Web site can be accessed on the Internet at http://www.navcen.uscg.gov/mwv/navrules/navrules.htm

Renewal Exams

Renewal DWO Exam: Administered to members who have previously passed an Initial DWO Exam (DWINTO) or a Renewal DWO Exam (DWINTR) within the last five years. This five-year period of eligibility commences on the date of passing the last examination. If a member fails to pass the DWO renewal (DWINTR) exam within the five-year period, the subsequent DWO exam (DWINTO) will be administered closed book.

Open Book Exam DWINTR (0702-1): The only reference material that is authorized during this open book proctored exam is a <u>corrected-to-date</u>, copy of the Navigation Rules, International - Inland, COMDTINST M16672.2(series). The only acceptable markings in this reference book are those that denote changes and updates. The book can NOT contain personalized tabs, indexes, or notes.

Passing the Merchant Marine (module 054xx) exam does satisfy the Deck Watch Officer (DWO) exam program requirement. For more information on the Coast Guard Deck Watch Officer Program and exam refer to COMDTINST 16672.5 (series). Specific instructions governing DWINTO and DWINTR exams:

Computer Aids

There are numerous commercially produced products and Internet sites available to assist you in learning the Navigation Rules. However, the student is cautioned that the end-of-course test is based on this training pamphlet and the NAVIGATION RULES, International-Inland, COMDTINST M16672.2 (series) book.

For updates to the NAVIGATION RULES, International-Inland, COMDTINST M16672.2 (series) book, the U.S. Coast Guard Navigation Center Web site can be accessed on the Internet at http://www.navcen.uscg.gov/?pageName=navRulesContent

Coast Guard members with password permissions to use CG Central can access the DWO course at:

https://elearning.uscg.mil/catalog/course.asp?id=177 and obtain an electronic version of the DWO/NAVIGATION RULES course in a portable document format (.pdf). This is found by navigating to the Learning tab then click on the tab Non-Resident Courses and PQGs.

There is a DWO e-learning tool on CG Central. It is found by navigating to the Learning Portal then click on the tab Boat Forces or Cutter Operations.

Lesson 1 PART A - GENERAL

Overview

Introduction

This lesson covers the general Rules of the Road as found in Part A of the "Navigation Rules" book. It contains rules 1 through 3 that establish the basic foundation for subsequent rules.

Objectives

After completing this lesson, you will be able to:

- **STATE** how to locate specific information in the "Navigation Rules" book.
- **STATE** where the International Rules are located in the book.
- **STATE** where the Inland Rules are located in the book.
- **STATE** where International Rules apply.
- **STATE** where Inland Rules apply.
- **STATE** which rules the special rules for inland waterways should conform with as closely as possible.
- **STATE** whether a vessel complying with the construction and equipment requirements of the International Regulation is in compliance with Inland Rules.
- **STATE** the three types of vessels that special rules may be made for.
- **DESCRIBE** the special identification light a submarine may use.
- **STATE** what types of vessels may deviate from the exact provisions of these rules concerning lights, shapes, and sound signaling devices.
- **LIST** who is held responsible to both follow the Rules and take all precaution to avoid danger.
- **STATE** when a vessel may depart from the Rules.
- **STATE** the three conditions that define the term "underway."

Overview

Objectives (Continued)

- **STATE** the definition of the term "length" as it refers to a vessel.
- **STATE** the definition of the term "breadth" as it refers to a vessel.
- **STATE** what is meant by "vessels in sight of one another."
- **LIST** six causes that might restrict visibility.
- MATCH types of vessels with their definitions and descriptions.

In This Lesson

This lesson covers the following topics:

Topic	See Page
The "Navigation Rule" Book	1-3
Application	1-5
Responsibility	1-8
General Definitions	1-9
Illustrations	1-15

Reading Assignment

READ the following pages from the "Navigation Rules" book:

Pages 2 to 11, **Rules 1-3**

The "Navigation Rules" Book

Introduction

The "Navigation Rules," COMDTINST M16672.2D is a publication for the nautical Rules of the Road. Every person who is required to know the nautical Rules of the Road should first be familiar with the basic design of the book. Not only will this help you in studying the rules, it will be useful on occasions in the field to assist you in quickly locating important information.

Chapters

The "Navigation Rules" book is separated into 10 areas:

- Introduction
- Legal Citations
- Conversion Table
- Navigation Rules and Regulations
- Interpretive Rules
- COLREGS Demarcation Lines
- Penalty Provisions
- Alternative Compliance
- Waters Specified by the Secretary
- Vessel Bridge-to-Bridge Radiotelephone Regulations

Table of Contents

By using the table of contents in the front of the book, you will discover that the second area is broken down into five **parts.** Each part is labeled alphabetically A through E. Within each part are the individual rules that are numbered 1 to 38. Part E consists of five **annexes.** In addition, Part B is further divided into three **sections/subparts.** Using the table of contents is the quickest way to locate specific information in this "Navigation Rules" book.

The "Navigation Rules" Book

Page Format for Rules

Upon entering the rules portion of the book, you'll discover that the page format is easy to follow as shown below. Refer to page 12 and 13 in the NAVIGATION RULES book.

INTERNATIONAL.

Steering and Sailing Rules

PART B - STEERING AND SAILING RULES

Section 1- Conduct of Vessels in Any Condition of Visibility

RULE 4

Application

Rules in this section apply to any condition of visibility.

RULE 5

Look-out

Every vessel shall at all times

INLAND

Steering and Sailing Rules

PART B - STEERING AND SAILING RULES

Section 1- Conduct of Vessels in Any Condition of Visibility

RULE 4

Application

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RULE 5

Look-out

Every vessel shall at all times

Annex Format

The Inland Annexes use the Code of Federal Regulations (CFR) number (i.e., 84.01) to identify each topic area, while the International Annexes number them sequentially.

Application

Background

This section presents an overview of Rule 1 in the "Navigation Rules" book. The safe navigation of a vessel on any waters is subject to internationally accepted rules. Rule 1 introduces you to the accepted International Rules and also identifies the Inland Rules established by the United States.

INTERNATIONAL

INLAND

Rule 1(a)

HIGHLIGHT: Rules, and apply

to

UNDERLINE: all vessels upon the high seas and in all waters connected therewith navigable by seagoing vessels

NOTE: High seas are waters outside demarcation lines.

HIGHLIGHT: Rules apply to

UNDERLINE: all vessels upon the inland waters of the United States, and to vessels of the United States on the Canadian waters of the Great Lakes

NOTE: Inland waters are inside demarcation lines.

Rule 1(b)

HIGHLIGHT: special rules

UNDERLINE: shall conform as close as possible to these Rules

(i) **HIGHLIGHT:** These Rules

UNDERLINE: constitute special

<u>rules</u>

(ii) **HIGHLIGHT:** All vessels

UNDERLINE: complying with the construction and equipment requirements of the International Regulations are considered to be in compliance with these Rules

INLAND

Rule 1 (c)

HIGHLIGHT: Nothing in these Rules shall interfere with

with respect to, and ships of war, and vessels proceeding under convoy, and fishing vessels engaged in fishing as a fleet

On footnote **HIGHLIGHT:**Submarines

UNDERLINE: may display, and intermittent flashing amber (yellow) beacon, and one flash per second for three (3) seconds followed by a three (3) second off-period

HIGHLIGHT: Nothing in these Rules shall interfere with

UNDERLINE: special rules, and with respect to, and ships of war, and vessels proceeding under convoy, and fishing vessels engaged in fishing as a fleet

On footnote **HIGHLIGHT:**Submarines

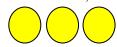
UNDERLINE: may display, and intermittent flashing amber (yellow) beacon, and one flash per second for three (3) seconds followed by a three (3) second offperiod

Submarine identification light.

AMBER (YELLOW)



MEMORY AID: Three short flashes are the Morse code symbol for the letter "S," as in (submarine).



Application

	INTERNATIONAL	INLAND
Rule 1 (e)	HIGHLIGHT: Whenever, Government, vessel of special construction or purpose	HIGHLIGHT: Whenever, vessel or class of vessels of special construction or purpose
	UNDERLINE: cannot comply fully, and such vessel shall comply, and closest possible compliance	UNDERLINE: cannot comply fully, and the vessel shall comply, and closest possible compliance
	EXAMPLE: Aircraft carriers are unable to place lights on their centerline due to their flight deck.	EXAMPLE: Aircraft carriers are unable to place lights on their centerline due to their flight deck.
Rule 1 (g)		HIGHLIGHT: 12 meters or more in length UNDERLINE: shall carry, and Inland Navigation Rules

Responsibility

Background

This section presents an overview of Rule 2 in the "Navigation Rules" book. Recognizing that no body of rules can cover every possible situation, the mariner is directed to be alerted to special circumstances that may require a breach of other rules to avoid danger. When the rules do not cover a particular situation, the mariner must take whatever precaution is consistent with the "Practice of Good Seamanship."

INTERNATIONAL

INLAND

International.

Rule 2 (a)

HIGHLIGHT: comply with

these Rules

UNDERLINE: <u>vessel</u>, and owner, master or crew

NOTE: This rule holds **EVERYONE** responsible to follow the rules and take every precaution to avoid danger.

Rule 2 (a) is the same as

Rule 2 (b)

HIGHLIGHT: may make a departure from these Rules necessary to avoid immediate danger

UNDERLINE: all dangers of navigation and collision and to any special circumstances, including the limitations of the vessels involved

NOTE: "special circumstance" means situations of which are not covered within these rules.

Rule 2 (b) is the same as International.

General Definitions

Background

This section presents an overview of Rule 3 in the "Navigation Rules" book. You must understand these terms and definitions to carry out the provisions of all the rules that follow.

INTERNATIONAL

INLAND

Rule 3 (a)

HIGHLIGHT: "vessel"

Rule 3 (a) is the same as International.

UNDERLINE: every description,

and <u>used</u>, and <u>as means of transportation on water</u>

NOTE: Vessels include **ALL** craft designed to transport persons

or cargo.

Rule 3 (b)

HIGHLIGHT: "power-driven

vessel"

UNDERLINE: propelled by

machinery

NOTE: This means any vessel with **engines or motors** used in moving a vessel through the water.

Rule 3 (b) is the same as

International.

Rule 3 (c)

HIGHLIGHT: "sailing vessel"

UNDERLINE: <u>under sail</u>, and <u>propelling machinery, if fitted, is</u>

not being used

CIRCLE: not

NOTE: This means any vessels moved through the water by **sails only** (motors used for generators do not constitute propelling machinery).

Rule 3 (c) is the same as International.

INLAND

Rule 3 (d)

HIGHLIGHT: "vessel engaged

in fishing"

UNDERLINE: with nets, lines, trawls or other fishing apparatus which, and does not include, and trolling

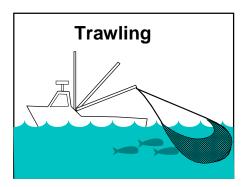
DOUBLE UNDERLINE: restrict maneuverability

NOTE: The term "vessel engaged in fishing" includes fishing vessels such as:

- Gill Netters
- **Shrimpers**
- Longliners

NOTE: It **Does Not** include sport fishing vessels or vessels using only rod and reels. This is referred to as **TROLLING** and does not restrict the vessel's maneuverability.

Rule 3 (d) is the same as International.



Rule 3 (e)

HIGHLIGHT: "seaplane"

UNDERLINE: aircraft designed to maneuver on the water

Rule 3 (e) is the same as International.



NOTE: It Does Not include a WIG craft

INLAND

Rule 3 (f)

HIGHLIGHT: "vessel not under

command"

UNDERLINE: <u>unable to</u> <u>maneuver as required</u>

NOTE: The term "vessel not under command" includes vessels that cannot maneuver due to a steering casualty or engine casualty and sailing vessels which

have lost sails.

Rule 3 (f) is the same as International.

Rule 3 (g)

HIGHLIGHT: "vessel restricted in her ability to maneuver"

DOUBLE UNDERLINE: $\underline{\text{from}}$

the nature of her work

UNDERLINE: <u>is restricted in her</u>

ability to maneuver

EXAMPLE: Below is a list of vessels that fit this category:

- Buoy tender servicing aids
- Dive boat with diver down
- Vessels conducting underway replenishment
- Vessel conducting helicopter operations
- Vessel engaged in mine clearance operations *
- A tug towing several barges that cannot change course
- *NOTE: This vessel has special lights, unlike the others.

Rule 3 (g) is the same as International.



Buoy tender servicing aids to navigation (notice the day shapes)

INLAND

Rule 3 (h)

HIGHLIGHT: "vessel constrained by draft"

UNDERLINE: <u>a power-driven</u> <u>vessel which, because of her draft, and <u>is severely restricted in her</u> ability to deviate from the course</u>



NOTE: Consideration of both depth of water and width of the channel should be used as factors to determine whether a vessel may be regarded as constrained by draft.

INSERT: (After Rule 3 (g)(vi)

and before Rule 3 (h).)

NOTE: "Constrained by draft is

not applicable - Inland"

Rule 3 (i)

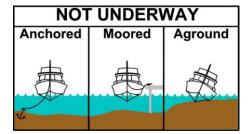
HIGHLIGHT: "underway"

UNDERLINE: <u>not at anchor, or made fast to the shore, or aground</u>

NOTE: "Underway, making way" means moving through the water under power (steaming).

"Underway, **not** making way" means moving through the water not under power (a vessel adrift).

International Rule 3 (i) is the same as Inland Rule 3 (h).



General Definitions

INTERNATIONAL

INLAND

Rule 3 (j)

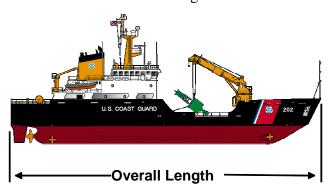
HIGHLIGHT: "length" and "breadth"

International Rule 3 (j) is the same as Inland Rule 3 (i).

UNDERLINE: length overall,

and greatest breadth

Illustration of length overall and widest breadth.





Rule 3 (k)

HIGHLIGHT: in sight of one

another

UNDERLINE: one can be observed visually from the other

NOTE: This does not include a vessel observed by radar or one

that you hear or smell.

International Rule 3 (k) is the same as Inland Rule 3 (j).

General Definitions

INTERNATIONAL

INLAND

Rule 3 (I)

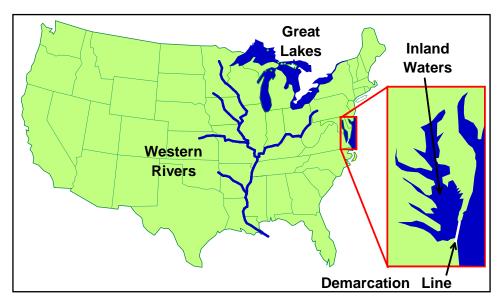
HIGHLIGHT: "restricted visibility"

International Rule 3 (1) is the same as Inland Rule 3 (k).

UNDERLINE: fog, mist, falling snow, heavy rainstorms, or any

other similar causes

NOTE: Inland Rules 3 (1) through (q) are not contained in International Rules.



Rule 3(m)

ADD: The term "Wing-In Ground (WIG) craft" means a multimodal craft which, in its main operational mode, flies in close proximity to the surface by utilizing surface-effect action.

HIGHLIGHT: Wing-In Ground (WIG) craft

No specifications for WIG craft in inland Waters



Wing In Ground (WIG) Craft

Illustrations

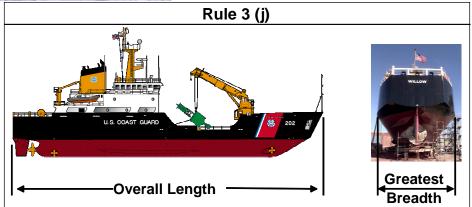
Instructions

Cut out the following illustrations and place them on the pages indicated.

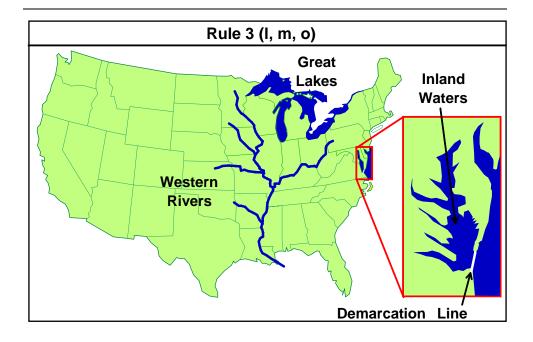
On Page 2



On Page 8



On Page 9



LESSON 2

PART B - STEERING AND SAILING RULES

Overview

Introduction

This lesson deals with the steering and sailing rules to be followed regardless of visibility or location. That means these rules apply ALL of the time, whether the visibility is clear or restricted. It includes Rules 4 through 8.

Objectives

After completing this lesson, you will be able to:

- **STATE** the three means by which a vessel maintains a proper lookout.
- **STATE** the six factors that are used to determine safe speed by all vessels.
- **STATE** the six factors that are used to determine safe speed by vessels with operational radar.
- **STATE** what every vessel should use to determine if risk of collision exists.
- **STATE** the two proper uses of radar equipment in determining if risk of collision exists.
- **STATE** the four considerations to be taken into account in determining if risk of collision exists.
- **STATE** the three types of action that shall be taken to avoid collision when action is required.
- **STATE** what degree of alteration in course and/or speed shall be taken to avoid collision.
- **STATE** the three provisions that should be made if alteration of course alone is used to avoid a close-quarters situation.
- **STATE** the three actions a vessel shall take, if necessary, to avoid collision or allow more time to assess the situation.

Overview

In This Lesson

This lesson reviews the following topics:

Topic	See Page
Application & Look-Out	2-3
Safe Speed	2-4
Risk of Collision	2-7
Action to Avoid Collision	2-9

Reading Assignment

READ the following pages from the "Navigation Rules" book:

Pages 12 to 19, Rules 4-8

Application & Look-out

Background

This section presents an overview of Rules 4 & 5 in the "Navigation Rules" book. Keeping a proper look-out is often termed the first rule of seamanship.

You can only determine what a proper look-out is after each situation has been assessed. You must consider all relevant factors including but not limited to weather, visibility, traffic density, and proximity of navigational hazards.

This rule emphasizes that a look-out uses more than just sight to do the job. It also allows for judgment in determining how many persons are needed to properly perform the job of look-out.

INTERNATIONAL

INLAND

Rule 4

HIGHLIGHT: any condition of

Rule 4 is the same as International.

visibility
NOTE: Any co

NOTE: Any condition of visibility could be clear, dark, haze, fog, rain, etc.

Rule 5

HIGHLIGHT: vessel, and at all times maintain, and look-out

Rule 5 is the same as International.

UNDERLINE: <u>sight</u>, and <u>hearing</u>, and <u>all available means</u>

NOTE: Maintain a proper lookout by **ALL available means appropriate** includes <u>sight</u>, <u>smell</u>, <u>hearing</u>, <u>taste</u>, as well as use of binoculars or radar.

NOTE: As a general rule, lookouts should be posted as low and as far forward as possible in restricted visibility.

Safe Speed

Background

This section presents an overview of Rule 6 in the "Navigation Rules" book. On land, speed limits are posted for everyone's safety. At sea, each vessel's crew must constantly analyze what a safe speed is, taking several factors into account. Speed in any situation is intimately related to the immediate circumstances at hand. Prudent mariners must use their best judgment in determining what constitutes a safe speed for a vessel in order to avoid collision.

INTERNATIONAL

INLAND

Rule 6

HIGHLIGHT: take proper and effective action, and be stopped, and determining a safe speed

Rule 6 is the same as International.

UNDERLINE: so that she can,

and to avoid collision

INLAND

Rule 6 (a)

HIGHLIGHT: determining a safe speed, and By all vessels

(i) UNDERLINE: state of

visibility

NOTE: State of **visibility** can be

clear, dark, rainy, etc.

(ii) UNDERLINE: traffic

density

NOTE: Density is the number of

vessels in an area.

(iii) UNDERLINE:

maneuverability, and stopping distance and turning ability

NOTE: Maneuverability is a ship's ability to turn, stop, back down, etc.

(iv) UNDERLINE: background

light

NOTE: Lights on shore may hide a vessel's lights. In addition, your own navigational lights may hinder your night vision when you are looking for other vessels at night.

(v) UNDERLINE: wind, sea and

current, and hazards

(vi) **UNDERLINE**: draft

NOTE: In areas of shoals or narrow channels, you may not have the luxury of altering course. Your only option is slowing your

speed or stopping.

2-5

Rule 6 (a) is the same as International.

INLAND

Rule 6 (b)

HIGHLIGHT: vessels with operational radar

Rule 6 (b) is the same as International.

(i) **UNDERLINE:** <u>characteristics, efficiency</u> and limitations

NOTE: Characteristics of radar equipment include, but aren't limited to:

- Range scales available
- Target acquisition
- How well system is tuned
- (ii) **UNDERLINE:** <u>radar range</u> <u>scale</u>
- (iii) **UNDERLINE:** <u>sea state</u>, <u>weather</u>, and <u>interference</u>
- (iv) **UNDERLINE:** <u>small</u> <u>vessels, ice and other floating</u> <u>objects may not be detected</u>
- (v) **UNDERLINE:** <u>number,</u> <u>location</u>, and <u>movement of vessels</u>

NOTE: Simultaneous plotting of several vessels at close range may become confusing.

(vi) **UNDERLINE:** <u>assessment</u> of the visibility

NOTE: One way of assessing visibility is to measure distance to the contact using your radar.

Risk of Collision

Background

This section presents an overview of Rule 7 in the "Navigation Rules" book. This rule gives guidance on how to determine if a risk of collision exists between your vessel and another.

INTERNATIONAL

INLAND

Rule 7(a)

HIGHLIGHT: Every vessel, and to determine if risk of collision exists

Rule 7 (a) is the same as International.

UNDERLINE: <u>all available</u> <u>means</u>, and <u>any doubt</u>, and <u>shall be</u> deemed to exist

NOTE: All available means includes eyes, ears, nose, radar, etc.

Rule 7 (b)

HIGHLIGHT: Proper use, and of radar equipment

UNDERLINE: <u>if fitted</u> and <u>operational</u>, and <u>long-range</u> <u>scanning</u>, and <u>radar plotting</u>, and

Rule 7 (b) is the same as

International.

Rule 7 (c)

HIGHLIGHT: Assumptions

systematic observation

UNDERLINE: <u>shall not be</u> <u>made</u>, and <u>scanty radar</u>

information

Rule 7 (c) is the same as International.

CIRCLE: not

NOTE: Don't make decisions based on only bits and pieces of information. GET THE WHOLE

PICTURE FIRST!!!

INLAND

Rule 7 (d)

HIGHLIGHT: determining if risk of collision exists, and considerations

Rule 7 (d) is the same as International.

(i) **HIGHLIGHT:** compass bearing

UNDERLINE: does not appreciably change

(ii) **HIGHLIGHT:** risk may sometimes exist even when an appreciable bearing change is evident

UNDERLINE: very large vessel or a tow, and vessel at close range

NOTE: This rule covers the basic

rule: Constant Bearing,

<u>D</u>ecreasing **<u>R</u>**ange (CBDR), which means a risk of collision exists.

Example: While your vessel maintains course and speed, the bearing of an approaching vessel remains constant. To accurately determine this, you must take the bearing from the same prominent point of the approaching vessel (mast, stack, etc.). However, at close range, risk of collision is still possible even if bearings change.

NOTE: If you are not sure if risk of collision exists, assume that it does and act accordingly.

Action to Avoid Collision

Background

This section presents an overview of Rule 8 in the "Navigation Rules" book. Once you have determined that a risk of collision exists, you need to know what action to take and at what time to take the action.

	INTERNATIONAL	INLAND	
Rule 8 (a)	HIGHLIGHT: action, and be positive, and ample time, and observance of good seamanship	Rule 8 (a) is the same as International.	
	NOTE:		
	• Be Positive: (OBVIOUS, or large enough to recognize)		
	• Ample time: (EARLY ENOUGH, before you are in a hazardous position)		
	• Observing good seamanship (in accordance with the RULES and common sense)		
Rule 8 (b)	HIGHLIGHT: alteration of course and/or speed	Rule 8 (b) is the same as International.	
	UNDERLINE: be large enough, and small alterations of course, and should be avoided		
Rule 8 (c)	HIGHLIGHT: alteration of course alone	Rule 8 (c) is the same as International.	
	UNDERLINE: may, and made in good time, and substantial, and close-quarters situation		

Action to Avoid Collision

	INTERNATIONAL	INLAND
Rule 8 (d)	UNDERLINE: Action taken, and shall, and result in, and action shall be carefully checked until, and past and clear	Rule 8 (d) is the same as International.
	HIGHLIGHT: passing at a safe distance	
Rule 8 (e)	HIGHLIGHT: If necessary to avoid collision, and to assess the situation	Rule 8 (e) is the same as International.
	UNDERLINE: slacken her speed, and take all way off, and reversing	
	NOTE: slacken speed = slow down take all way off = stop reversing = back down	

Action to Avoid Collision

Action to Avoid Collision			
INTERNATIONAL	INLAND		
(i) HIGHLIGHT: vessel, and take early action	Rule 8 (f) is the same as International.		
UNDERLINE: <u>allow</u> , and <u>safe</u> <u>passage</u>			
NOTE: The GIVE-WAY vessel shall take early action to allow the stand-on vessel plenty of room.			
(ii) HIGHLIGHT: not relieved of this obligation, and have full regard			
NOTE: The GIVE-WAY vessel is obligated to <u>stay clear</u> of the stand-on vessel until risk of collision is <u>past and clear</u> .			
(iii) HIGHLIGHT: remains fully obliged			
NOTE: The STAND-ON vessel shall keep on its course and speed and NOT maneuver to cause the give-way vessel to be constantly attempting to stay clear.			
	(i) HIGHLIGHT: vessel, and take early action UNDERLINE: allow, and safe passage NOTE: The GIVE-WAY vessel shall take early action to allow the stand-on vessel plenty of room. (ii) HIGHLIGHT: not relieved of this obligation, and have full regard NOTE: The GIVE-WAY vessel is obligated to stay clear of the stand-on vessel until risk of collision is past and clear. (iii) HIGHLIGHT: remains fully obliged NOTE: The STAND-ON vessel shall keep on its course and speed and NOT maneuver to cause the give-way vessel to be constantly		

LESSON 2 - CONTINUED

PART B - STEERING AND SAILING RULES

Overview

Introduction

This lesson deals with the steering and sailing rules to be followed regardless of visibility but only within certain areas. These rules apply in clear or restricted visibility and only apply when in narrow channels or traffic schemes. It includes Rules 9 and 10.

Objectives

After completing this lesson, you will be able to:

- **STATE** what a vessel proceeding along the course of a narrow channel or fairway should do.
- **STATE** the three items that pertain to a downbound vessel when encountering an upbound vessel in a narrow channel or fairway on certain inland waters.
- **STATE** what an upbound vessel shall do when encountering a downbound vessel in a narrow channel or fairway on certain inland waters.
- **STATE** what two types of vessels shall not impede a vessel which can safely navigate only within a narrow channel or fairway.
- **STATE** what type vessel shall not impede the passage of any other vessel navigating within a narrow channel or fairway.
- **STATE** when a vessel shall not cross a narrow channel or fairway.
- **LABEL** the main parts associated with traffic separation schemes.
- **STATE** the proper way to leave or join a traffic separation scheme.
- **STATE** the proper way to leave or join a traffic separation scheme when joining from either side.
- **STATE** the proper way to cross a traffic lane.
- **STATE** the three types of vessels that may use an inshore traffic zone.

Overview

Objectives (Continued)

- **STATE** the two conditions that permit any vessel to use an inshore traffic zone.
- **STATE** the four conditions that permit a vessel to enter a separation zone or cross a separation line.
- **STATE** the two types of vessels that shall not impede the safe passage of a power-driven vessel.

In This Lesson

This lesson reviews the following topics:

Topic	See Page
Narrow Channels	2-14
Traffic Separation Schemes	2-17
Illustrations	2-21

Reading Assignment

READ the following pages from the "Navigation Rules" book:

Pages 20 to 25, Rules 9 & 10

Narrow Channels

Background

This section presents an overview of Rule 9 in the "Navigation Rules" book. Because fairways and channels restrict a vessel's maneuverability, rules must be followed to ensure safe passing.

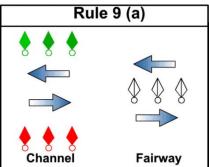
INTERNATIONAL

INLAND

Rule 9 (a)

HIGHLIGHT: proceeding along, and narrow channel or fairway

UNDERLINE: <u>as near to the</u> <u>outer limit</u>, and <u>on her starboard side</u>



NOTE: The wording of parts of Rule 9 (a) is the same as International, EXCEPT as listed below:

(ii) **HIGHLIGHT:** downbound, and upbound

UNDERLINE: shall have the right-of-way over, and shall propose the manner and place of passage, and shall initiate the maneuvering signals

HIGHLIGHT: vessel proceeding

<mark>upbound</mark>

UNDERLINE: shall hold

<u>NOTE</u>: A vessel downbound with a following current has the right of way over an upbound vessel.

Rule 9 (b)

HIGHLIGHT: less than 20 meters, and or a sailing vessel

UNDERLINE: shall not impede, and a vessel which can safely navigate only within

NOTE: "Vessels less than 20 meters," refers to power vessels only. It doesn't matter what length a sailing vessel is.

Rule 9 (b) is the same as International.

Narrow Channels

	INTERNATIONAL	INLAND
Rule 9 (c)	HIGHLIGHT: engaged in fishing UNDERLINE: shall not impede, and any other vessel	Rule 9 (c) is the same as International.
Rule 9 (d)	HIGHLIGHT: vessel shall not cross UNDERLINE: if, and impedes, and a vessel which can safely navigate only within	NOTE: The wording of parts of Rule 9 (d) is the same as International, EXCEPT as listed below: HIGHLIGHT: The latter vesse.
	HIGHLIGHT: The latter vessel CIRCLE: may UNDERLINE: use the sound signal, and if in doubt as to the intention	CIRCLE: shall UNDERLINE: use the danger signal, and if in doubt as to the intention
	ADD: (below "Rule 34 (d)" with a line pointing to it) "Danger signal"	

INTERNATIONAL

INLAND

Rule 9 (e)

(i) **HIGHLIGHT:** when overtaking

UNDERLINE: can take place only if the vessel to be overtaken has to take action to permit safe passing

ADD: (in white space to left of "Rule 34 (c)(i)" with line pointing to it) "*Maneuvering signal*"

ADD: (in white space to left of "Rule 34 (c)(ii)" with line pointing to it) "*Agreement signal*"

UNDERLINE: <u>take steps to</u> permit safe passing

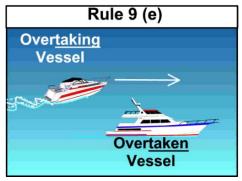
ADD: (after "Rule 34 (d)" with line pointing to it) "*Danger signal*"

Sound signals will be covered later.

(ii) **ADD:** (after "Rule 13") "Keep out of overtaken vessels way"

Rule 9 (e) is the same as International.

NOTE: Overtaking = Passing



NOTE: Overtak<u>en</u> = Being passed

Rule 9 (f)

HIGHLIGHT: nearing a bend or, and other vessels may be obscured

UNDERLINE: navigate with particular alertness and caution and shall sound the appropriate signal

ADD: (after "Rule 34 (e)") "*Bend signal*"

Rule 9 (f) is the same as International.

Rule 9 (g)

HIGHLIGHT: avoid anchoring UNDERLINE: narrow channel

Rule 9 (g) is the same as International.

Background

This section presents an overview of Rule 10 in the "Navigation Rules" book. Traffic separation schemes are used when there is a lot of traffic transiting a relatively small area. The rules help to avoid confusion by directing where each vessel is going in the scheme.

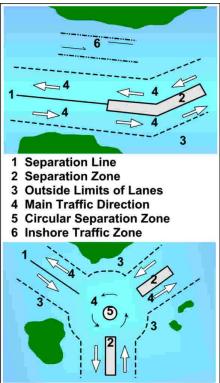
INTERNATIONAL

INLAND

Rule 10 (a)

The following illustrates the main part of a traffic separation scheme.

Rule 10 (a) is the same as International.



INTERNATIONAL

INLAND

Rule 10 (b)

UNDERLINE: <u>A vessel</u>, and shall

(i) **HIGHLIGHT:** proceed in the appropriate traffic lane

NOTE: Follow traffic pattern

(ii) **HIGHLIGHT:** keep clear of a traffic separation line or

separation zone

NOTE: Stay out of separation

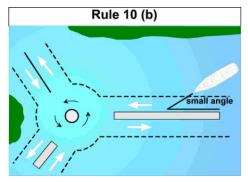
zone.

(iii) **HIGHLIGHT:** normally

join or leave

UNDERLINE: at the termination of the lane, and when joining or leaving from either side, and at as small an angle

Rule 10 (b) is the same as International.



NOTE: Leave at the end of lanes or join/leave at little or no angle. Merge like on a highway.

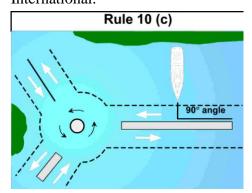
Rule 10 (c)

HIGHLIGHT: avoid crossing

traffic lanes

UNDERLINE: cross on a heading, and at right angles

Rule 10 (c) is the same as International.



NOTE: Cross at right angles.

	INTERNATIONAL	INLAND
Rule 10 (d)	(i) UNDERLINE: A vessel shall not use HIGHLIGHT: inshore traffic	Rule 10 (d) is the same as International.
	zone CIRCLE: not	
	CIRCLE: However	
	UNDERLINE: less than 20 meters, and sailing vessels, and engaged in fishing	
	CIRCLE: may	
	(ii) HIGHLIGHT: enroute to or from	
	UNDERLINE: place situated within the inshore traffic zone, or to avoid immediate danger	
	HIGH ICUT.	Pula 10 (a) is the same as
Rule 10 (e)	HIGHLIGHT: separation zone, and separation line	Rule 10 (e) is the same as International.
	DOUBLE UNDERLINE: <u>zone</u> , and <u>line</u>	
	UNDERLINE: shall not normally enter, and or cross	
	CIRCLE: except:	
	(i) HIGHLIGHT: in cases of emergency	
	(ii) HIGHLIGHT: to engage in fishing	
Rule 10 (f)	HIGHLIGHT: areas near the terminations of traffic	Rule 10 (f) is the same as International.
	DOUBLE UNDERLINE:	

caution

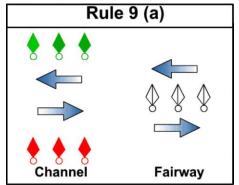
	INTERNATIONAL	INLAND
Rule 10 (g)	HIGHLIGHT: avoid anchoring UNDERLINE: scheme, and near its terminations	Rule 10 (g) is the same as International.
Rule 10 (h)	HIGHLIGHT: not using UNDERLINE: avoid it, and wide a margin	Rule 10 (h) is the same as International.
Rule 10 (i)	HIGHLIGHT: engaged in fishing UNDERLINE: shall not impede	Rule 10 (i) is the same as International.
Rule 10 (j)	HIGHLIGHT: less than 20 meters, and sailing vessel UNDERLINE: shall not impede, and power-driven vessel	Rule 10 (j) is the same as International.
Rule 10 (k)	HIGHLIGHT: maintenance of safety of navigation UNDERLINE: is exempted EXAMPLE: a buoy tender	Rule 10 (k) is the same as International.
Rule 10 (I)	HIGHLIGHT: laying, servicing or picking up of a submarine cable UNDERLINE: is exempted NOTE: Submarine cable is a term used to describe cable laid on the ocean floor such as telephone cable.	Rule 10 (l) is the same as International.

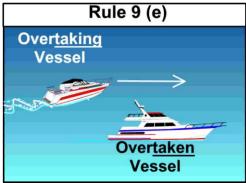
Illustrations

Instructions

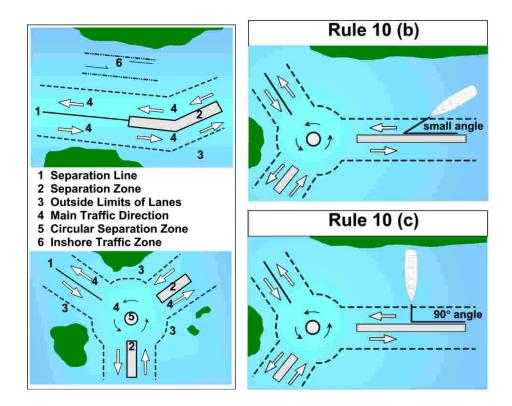
Cut out the following illustrations and place them on the pages indicated.

On Page 18





On Page 20



LESSON 2 – CONTINUED PART B - STEERING AND SAILING RULES

Overview

Introduction

This lesson on the steering and sailing rules deals with situations when vessels are or are not in sight of one another when in or near an area of restricted visibility. It includes Rules 11 through 19.

Objectives

After completing this lesson, you will be able to:

- **IDENTIFY** which sailing vessel should keep out of the way of the other when each has the wind on a different side.
- **IDENTIFY** which sailing vessel should keep out of the way of the other when each has the wind on the same side.
- **IDENTIFY** which sailing vessel should keep out of the way of the other when one has the wind on the port side and the other is windward but it can't be determined which side the wind is on.
- **STATE** what a vessel overtaking another is required to do.
- **STATE** when a vessel is deemed to be overtaking.
- **STATE** what two power-driven vessels meeting on reciprocal courses should do to avoid collision.
- **STATE** when a head-on situation is deemed to exist by day.
- **STATE** when a head-on situation is deemed to exist by night.
- **IDENTIFY** which vessel has the right-of-way in a head-on situation on certain inland waters.
- **STATE** which vessel should keep out of the way of others in a crossing situation.
- **STATE** what a give-way vessel should do.
- **STATE** what a stand-on vessel should do.
- **STATE** when a stand-on vessel may take action to avoid collision by her maneuver alone.
- **STATE** when a stand-on vessel shall take action to avoid collision.
- **STATE** what a stand-on vessel should not do when action is necessary to avoid a collision.
- **LIST** the three situations when the responsibilities between different types of vessels do not apply.
- **LIST** the seven types of vessels in order of most restricted on top to least restricted on bottom that shows which vessel should stay out of the way of others.

Overview

Objectives (Continued)

- **STATE** what a power-driven vessel should do in restricted visibility.
- **STATE** what a vessel should NOT do when it detects by radar alone in restricted visibility the presence of another vessel at close quarters forward of the beam.
- **STATE** what a vessel should NOT do when it detects by radar alone in restricted visibility the presence of another vessel at close quarters abeam or abaft the beam.
- **STATE** what two things a vessel in restricted visibility should do when it hears a fog signal apparently forward of the beam.

In This Lesson

This lesson reviews the following topics:

Topic	See Page
Application and Sailing Vessels	2-25
Overtaking	2-26
Head-on Situations	2-27
Crossing Situations	2-29
Action by Give-Way & Stand-on Vessel	2-30
Responsibilities Between Vessels	2-32
Conduct of Vessels in Restricted Visibility	2-35
Illustrations	2-37

Reading Assignment

READ the following pages from the "Navigation Rules" book:

Pages 26 to 37, Rules 11-19

Application & Sailing Vessels

Background

This section presents an overview of Rules 11 & 12 in the "Navigation Rules" book. The side of a sailing vessel that the wind is on refers to the side that the wind is coming from. In addition, windward refers to upwind and leeward refers to downwind.

INTERNATIONAL

INLAND

Rule 11 (a)

NOTE: In sight means when each vessel can be observed visually from the other.

Rule 11 (a) is the same as International.

Rule 12 (a)

HIGHLIGHT: two sailing vessels, and approaching

UNDERLINE: one of them shall keep out of the way

(i) **HIGHLIGHT:** wind on a

different side

UNDERLINE: wind on the port

(ii) **HIGHLIGHT:** wind on the

same side

UNDERLINE: vessel which is to

windward

(iii) **HIGHLIGHT:** wind on the port sees a vessel to windward and cannot determine

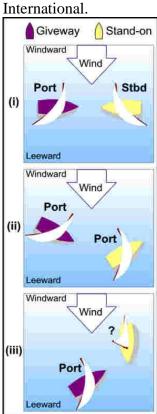
UNDERLINE: keep out of the

way

NOTE: In other words, vessel

sees a vessel to its port.

Rule 12 (a) is the same as



Rule 12 (b)

HIGHLIGHT: windward side
UNDERLINE: side opposite to
that on which the fore and aft sail
is carried

Rule 12 (b) is the same as International.

Overtaking

Background

This section presents an overview of Rule 13 in the "Navigation Rules" book. The burden of keeping clear and avoiding collision is on the vessel that is overtaking the other.

INTERNATIONAL

INLAND

Rule 13 (a)

HIGHLIGHT: vessel overtaking

UNDERLINE: shall keep out of

the way

NOTE: Vessel passing shall stay clear of vessel being passed.

Rule 13 (a) is the same as International.

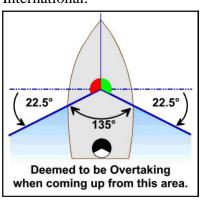
Rule 13 (b)

HIGHLIGHT: deemed to be overtaking

UNDERLINE: direction more than 22.5 degrees abaft her beam, and at night, and only the sternlight

NOTE: Refer to rule 21 (c) for an explanation of sternlight.

Rule 13 (b) is the same as International.



Rule 13 (c)

HIGHLIGHT: any doubt

UNDERLINE: assume that this is

the case

Rule 13 (c) is the same as International.

Rule 13 (d)

HIGHLIGHT: subsequent alteration of the bearing

UNDERLINE: shall not make the overtaking vessel a crossing vessel, and keeping clear of the

overtaken vessel

DOUBLE UNDERLINE: <u>until</u> she is finally past and clear

Rule 13 (d) is the same as International.

Head-on Situations

Background

This section presents an overview of Rule 14 in the "Navigation Rules" book. This rule requires each vessel to turn right in head-on situations, which should prevent or reduce collisions resulting from left-handed maneuvering.

INTERNATIONAL

INLAND

Rule 14 (a)

HIGHLIGHT: two power-driven vessels

UNDERLINE: <u>are meeting</u>, and <u>risk of collision</u>, and <u>each shall</u> alter her course to starboard

NOTE: In other words, if vessels are close enough to think a collision may occur, "alter to starboard."

Rule 14 (a) is worded similarly to International **EXCEPT:**

HIGHLIGHT: Unless otherwise

agreed

NOTE: In other words, by radio telephone, which we discuss in the Annexes.

Rule 14 (b)

HIGHLIGHT: situation shall be deemed to exist

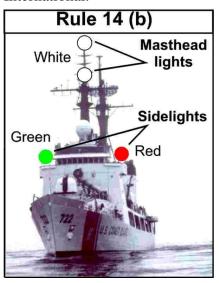
UNDERLINE: sees the other ahead, and masthead lights of the other in a line, and and/or both sidelights, and corresponding aspect

CIRCLE: by night **CIRCLE:** by day

NOTE: Refer to rule 21 (a) (b) & 23 (a) for details on lights stated in

this rule.

Rule 14 (b) is the same as International.



Rule 14 (c)

HIGHLIGHT: any doubt

UNDERLINE: assume that it

does

NOTE: If in doubt, it's a HEAD-

ON situation.

Rule 14 (c) is the same as International.

INTERNATIONAL

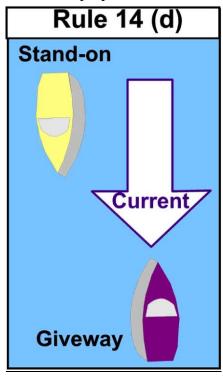
INLAND

Rule 14 (d)

HIGHLIGHT: proceeding

downbound downbound

UNDERLINE: <u>shall have the</u> <u>right-of-way over an upbound</u> <u>vessel</u>, and <u>propose</u>, and <u>initiate</u>



Crossing Situations

Background

This section presents an overview of Rule 15 in the "Navigation Rules" book.

INTERNATIONAL

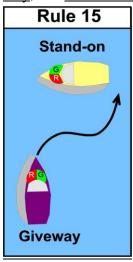
INLAND

Rule 15

HIGHLIGHT: two power

driven-vessels

UNDERLINE: other on her own starboard side shall keep out of the way, and avoid crossing ahead



MEMORY AID: Think about the running lights on each vessel. If you see red, you are give-way. If you see green, you are stand-on and proceed.

Rule 15 (a)

Rule 15 (a) is the same as Rule 15 International.

Rule 15 (b)

HIGHLIGHT: crossing a river
UNDERLINE: shall keep out of

the way

NOTE: Vessels such as ferry boats crossing a river shall stay clear of vessels proceeding up or down river.

Action by Give-Way & Stand-on Vessel

Background

This section presents an overview of Rules 16 & 17 in the "Navigation Rules" book. The actions that the give-way vessel should take don't change. However, the stand-on vessel does have alternatives when the give-way vessel does not follow the Rules.

INTERNATIONAL

INLAND

Rule 16

HIGHLIGHT: keep out of the

way

UNDERLINE: early, and

substantial action

NOTE: Early = ample time

Substantial action = large

turn

Rule 16 is the same as International.

Rule 17 (a)

(i) **HIGHLIGHT:** vessels is to

keep out of the way

UNDERLINE: other shall keep

her course and speed

DOUBLE UNDERLINE: keep

NOTE: Keep = maintain

(ii) **HIGHLIGHT:** take action

to avoid collision by her maneuver

alone

UNDERLINE: is not taking

appropriate action

NOTE: When the give-way vessel doesn't alter course, speed,

etc., the stand-on \boldsymbol{MAY} take

action.

CIRCLE: may

Rule 17 (a) is the same as

International.

Action by Give-Way & Stand-on Vessel

	INTERNATIONAL	INLAND
Rule 17 (b)	HIGHLIGHT: finds herself so close that collision cannot be avoided. NOTE: The highlighted section is the definition of the word "EXTREMIS" which is important but not found in your NAVRULES Book. CIRCLE: shall UNDERLINE: take such action, and to avoid collision	Rule 17 (b) is the same as International.
	NOTE: The give-way vessel SHALL maneuver to avoid collision at close quarters.	
Rule 17 (c)	HIGHLIGHT: in a crossing situation UNDERLINE: not alter course to port for a vessel on her own port side	Rule 17 (c) is the same as International.
Rule 17 (d)	HIGHLIGHT: does not relieve UNDERLINE: give-way vessel NOTE: All give-way vessels are still at fault even if the stand-on (right of way) vessel maneuvers.	Rule 17 (d) is the same as International.

Responsibilities Between Vessels

Background

This section presents an overview of Rule 18 in the "Navigation Rules" book. This rule states the hierarchy of vessels required to give-way to other vessels due to their circumstance. When a vessel is required not to impede the passage of another vessel, such a vessel shall, so far as practicable, navigate in such a way as to avoid the development of risk of collision.

INTERNATIONAL

INLAND

Rule 18

ADD: (To the right of "Except where Rules 9, 10, and 13 otherwise require")

"9 - Narrow channels

10 - Traffic separation scheme

13 – Overtaking"

NOTE: If you list all the circumstances in order (most restricted on top and least restricted on bottom), you can easily determine which vessels must stay clear of the other vessels above them on the list.

ADD: (This memory aid to the left side of page 28.

Non Not under

command

Rates Restricted in ability

to maneuver

<u>C</u>an <u>C</u>onstrained by

draft

(International only)

 $\begin{array}{ccc} \underline{F}ool & \underline{F}ishing \\ \underline{S}enior & \underline{S}ail \\ \underline{P}eople & \underline{P}ower \\ \underline{S}ometimes & \underline{S}eaplanes \end{array}$

<u>W</u>ow <u>Wing in Ground</u>

Rule 18 is the same as International **EXCEPT:**

ADD: (Between rules 18 (c)(ii) and 18 (d)

"No 'constrained by draft' in Inland Rules"

Responsibilities Between Vessels

	INTERNATIONAL	INLAND	
Rule 18 (f) i	HIGHLIGHT: when taking off, landing, in flight, clear of all other vessels		
Rule 18 (f) ii	HIGHLIGHT: operating on the water, comply, rules, power-driven vessel		
	_		
	_		

Conduct of Vessels in Restricted Visibility

Overview

This section presents an overview of Rule 19 in the "Navigation Rules" book. Mariners should be particularly mindful of existing visibility when considering or establishing proper look-out, safe speed, risk of collision, action to be taken to avoid collision, conduct in narrow channels, and conduct in vessel traffic schemes.

INTERNATIONAL

INLAND

International.

Rule 19 (a)

HIGHLIGHT: not in sight of

one another

CIRCLE: in or near

UNDERLINE: area of restricted

visibility



Rule 19 (b)

HIGHLIGHT: Every vessel, and

power-driven vessel

UNDERLINE: safe speed, and

engines ready

NOTE: This rule states that a power vessel keep engine(s)

on line (running).

Rule 19 (b) is the same as International.

Rule 19 (a) is the same as

2-36

Conduct of Vessels in Restricted Visibility

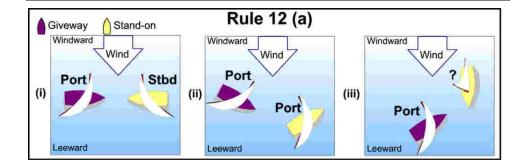
	INTERNATIONAL	INLAND
Rule 19 (c)	UNDERLINE: have due regard to the prevailing circumstances and conditions of restricted visibility NOTE: Use safe speed proper lookout, and radar (if fitted).	Rule 19 (c) is the same as International.
Rule 19 (d)	HIGHLIGHT: detects by radar alone UNDERLINE: shall determine, and shall take avoiding action in ample time, and shall be avoided (i) HIGHLIGHT: alteration of course to port UNDERLINE: forward of the beam (ii) HIGHLIGHT: alteration of course towards a vessel UNDERLINE: abeam or abaft the beam	Rule 19 (d) is the same as International.
Rule 19 (e)	HIGHLIGHT: hears apparently forward of her beam the fog signal of another vessel, or which cannot avoid a close-quarters situation UNDERLINE: shall reduce her speed to the minimum at which she can be kept on course, NOTE: this is the definition of "Bare Steerageway" it is a key term and not found in the NAVRULES book. UNDERLINE: if necessary take all her way off (Slow down or stop.)	Rule 19 (e) is the same as International.

Illustrations

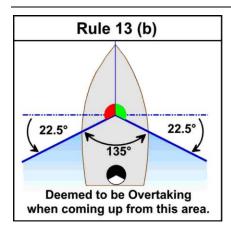
Instructions

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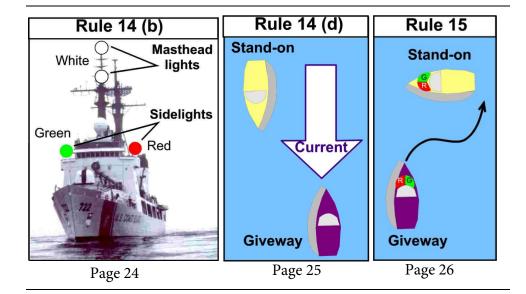
On Page 22



On Page 24



On Pages 24 - 26



LESSON 3

PART C - LIGHTS AND SHAPES

Overview

Introduction

This lesson deals with the lights required by vessels under normal conditions. It includes Rules 20 through 23.

Objectives

After completing this lesson, you will be able to:

- **LIST** the two times when lights are required to be exhibited.
- **STATE** when lights may be exhibited even though they are not required.
- **STATE** when shapes are displayed.
- **MATCH** the types of lights displayed on vessels with the proper color(s).
- **MATCH** the types of lights displayed on vessels with the proper degrees of arc.
- **STATE** on what length vessel the sidelights may be combined in one lantern.
- **STATE** the number of flashes in a flashing light.
- **STATE** the number of flashes in a special flashing light.
- **STATE** what additional light an air-cushion vessel shall display in the nondisplacement mode.
- **STATE** the optional light display for a vessel less than 12 meters.
- **STATE** the optional light display for a vessel less than 7 meters whose maximum speed does not exceed 7 knots.
- **STATE** the optional light display for vessels on the Great Lakes.

Overview

In This Lesson

This lesson reviews the following topics:

Topic	See Page
Application	3-3
Definitions	3-5
Visibility of Lights	3-9
Power-Driven Vessels Underway	3-10
Illustrations	3-13

Reading Assignment

READ the following pages from the "Navigation Rules" book:

Pages 38 to 51, **Rules 20-23**

Application

Background

This section presents an overview of Rule 20 in the "Navigation Rules" book. Common sense says lights by night and shapes by day. However, it is important to know that lights shall sometimes be displayed even during daylight on certain occasions.

INTERNATIONAL	INLAND
HIGHLIGHT: Rules, and complied with UNDERLINE: in all weathers	Rule 20 (a) is the same as International.
UNDERLINE: from sunset to sunrise NOTE: Use the prescribed light during night and limit the use of other lights.	Rule 20 (b) is the same as International.
HIGHLIGHT: lights prescribed CIRCLE: shall UNDERLINE: be exhibited, an sunrise to sunset HIGHLIGHT: in restricted visibility CIRCLE: may UNDERLINE: be exhibited, an when it is deemed necessary NOTE: Use lights during daylight when: • in restricted visibility (e.g., fog, rain, etc.) • deemed necessary	International.

Application

	INTERNATIONAL	INLAND
Rule 20 (d)	HIGHLIGHT: Rules, and shapes UNDERLINE: by day	Rule 20 (d) is the same as International.
Rule 20 (e)	NOTE: Annex I gives technical details concerning lights and shapes.	Rule 20 (e) is the same as International.
Rule 20 (f)	Rule 20 (f) doesn't apply to International	HIGHLIGHT: lights, and may be lowered UNDERLINE: pass under a bridge

Definitions

Background

This section presents an overview of Rule 21 in the "Navigation Rules" book. Different lights show not only different colors, but also different amounts of arc. This is done so specific lights can only be seen at specific aspects to the vessel, like seeing the sternlight only when you are behind the vessel.

INTERNATIONAL

INLAND

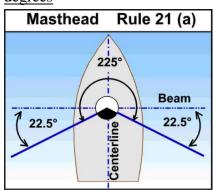
Rule 21 (a)

HIGHLIGHT: "Masthead light"

CIRCLE: 225 degrees

UNDERLINE: white, and 22.5

degrees



Rule 21 (a) is the same as International **EXCEPT:**

HIGHLIGHT: except that on a

vessel of less than

CIRCLE: 12 meters

UNDERLINE: <u>as nearly as practicable to</u> and, <u>centerline</u>

EXAMPLE: A vessel 11 meters in length need not have its masthead light displayed on centerline, but must try to place the light as close as possible on

centerline.

Definitions

INTERNATIONAL

INLAND

Rule 21 (b)

HIGHLIGHT: "Sidelights", and

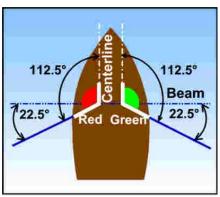
<mark>less than</mark>

CIRCLE: 112.5 degrees

UNDERLINE: green, and red, and 22.5 degrees, and may be

combined

CIRCLE: 20 meters



Rule 21 (b) is the same as International **EXCEPT:**

HIGHLIGHT: except that on a

vessel of less than CIRCLE: 12 meters

UNDERLINE: when combined, and placed as nearly as practicable

to, and centerline

Definitions

INTERNATIONAL	INLAND
HIGHLIGHT: "Sternlight" UNDERLINE: white, and 67.5 degrees CIRCLE: 135 degrees	Rule 21 (c) is the same as International.
135° 67.5° 67.5°	
HIGHLIGHT: "Towing light" UNDERLINE: yellow	Rule 21 (d) is the same as International.
HIGHLIGHT: "All-round light" CIRCLE: 360 degrees NOTE: They can be any standard color	Rule 21 (e) is the same as International.
HIGHLIGHT: "Flashing light" UNDERLINE: 120 flashes NOTE: 120 flashes per minute = 2 times per second.	Rule 21 (f) is the same as International.
	HIGHLIGHT: "Sternlight" UNDERLINE: white, and 67.5 degrees CIRCLE: 135 degrees HIGHLIGHT: "Towing light" UNDERLINE: yellow HIGHLIGHT: "All-round light" CIRCLE: 360 degrees NOTE: They can be any standard color HIGHLIGHT: "Flashing light" UNDERLINE: 120 flashes NOTE: 120 flashes per minute =

INTERNATIONAL

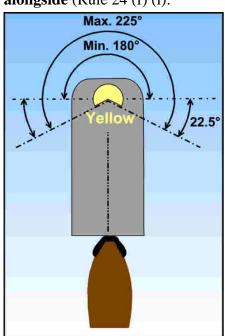
Rule 21 (g) Rule 21 (g) doesn't apply to International.

HIGHLIGHT: "Special flashing

INLAND

UNDERLINE: yellow, and 50 to 70 flashes, and far forward, and centerline of the tow, and not less than 180 degrees nor more than 225 degrees, and 22.5 degrees

NOTE: The "tow" refers to being **pushed ahead or towed alongside** (Rule 24 (f) (i).



50 - 70 flashes a minute.

Visibility of Lights

Background

Rule 22

This section presents an overview of Rule 22 in the "Navigation Rules" book.

INTERNATIONAL	INLAND
NOTE: General specifics concerning intensities of lights are listed in Annex I.	Rule 22 is the same as International EXCEPT it adds special flashing light to all lengths.
	HIGHLIGHT: a special flashing
	light, 2 miles (in paragraphs a,b,c)

	Rule 22	?	
Length (meters)	Masthead (NM)	Other (NM)	Side (NM)
L ≥ 50	6	3	3
20 ≤ L <50	5	2	2
12 ≤ L <20	3	2	2
L < 12	2	2	1
Submerged = 3	NM Special F	lashing (Inla	nd) = 2NM

Power-Driven Vessels Underway

Background

This section presents an overview of Rule 23 in the "Navigation Rules" book. This rule covers lights and shapes for power-driven vessels underway under normal conditions.

INTERNATIONAL

INLAND

Rule 23 (a)

HIGHLIGHT: underway

(i) UNDERLINE: masthead

light forward

NOTE: Forward means as far

forward as possible.

(ii) HIGHLIGHT: second

masthead light

UNDERLINE: <u>abaft of and</u> <u>higher than</u>, and <u>less than</u>

CIRCLE: 50 meters

DOUBLE UNDERLINE: <u>not,</u> and <u>obliged,</u> and <u>but may do so</u>

(iii) UNDERLINE: sidelights

(iv) UNDERLINE: sternlight

ADD: (Below picture) "Vessel 50 meters or more in length"

Rule 23 (a) is the same as

International.

UNDERLINE: (Under picture) less than 50 meters in length

Power-Driven Vessels Underway

INTERNATIONAL

INLAND

Rule 23 (b)

HIGHLIGHT: air-cushion vessel

CIRCLE: non-

Rule 23 (b) is the same as International.

UNDERLINE: <u>displacement</u> mode, and all-round flashing

yellow light

ADD: (Underneath "all-round flashing yellow") "120 per minute"

NOTE: Nondisplacement mode means it is on the surface of the water and may be traveling at a high rate of speed. This is why the flashing yellow light is used to get your attention.

Rule 23 (c)

HIGHLIGHT: A WIG craft only when taking off, landing and in flight near the surface

Rule 23 (c) is the same as International.

CIRCLE: shall

UNDERLINE: in addition to the lights prescribed in paragraph (a) of this Rule, exhibit a high intensity all-around flashing red light.

Power-Driven Vessels Underway

Rule 23 (d)

(i) **HIGHLIGHT:** less than

Rule 23 (d) is the same as International 23 (d)(i)

CIRCLE: may

12 meters

UNDERLINE: all-round white,

and sidelights

(ii) **HIGHLIGHT:** less than 7 meters, and maximum speed does

not exceed 7 knots, and if practicable, also exhibit

CIRCLE: may

UNDERLINE: all-round white

<u>light</u>

CIRCLE: if practicable **UNDERLINE:** sidelights

(iii) **HIGHLIGHT:** masthead light, and all-round white light, and power-driven, and less than 12

meters

CIRCLE: may

UNDERLINE: be displaced from, and centerline, and if

centerline fitting is not practicable,

and sidelights are combined

Rule 23 (d)(ii) doesn't apply to Inland Rules.

Rule 23 (e)

Rule 23 (e) doesn't apply to

International.

HIGHLIGHT: power-driven vessel, and on the Great Lakes

CIRCLE: may

UNDERLINE: all-round white

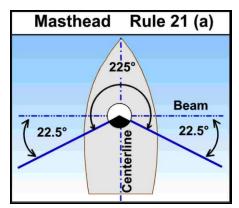
light in lieu of the second masthead light and sternlight

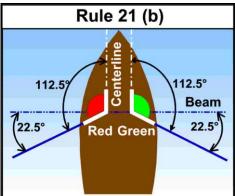
Illustrations

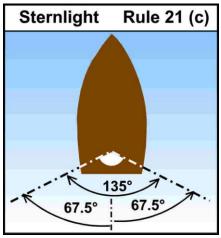
Instructions

Cut out the following illustrations and place them on the pages indicated.

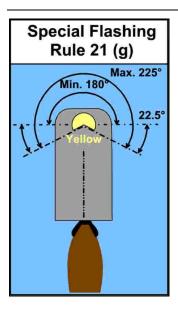
On Page 34







On Page 35



On Page 37

	Rule 22	2	
Length (meters)	Masthead (NM)	Other (NM)	Side (NM)
L ≥ 50	6	3	3
20 ≤ L <50	5	2	2
12 ≤ L <20	3	2	2
L < 12	2	2	1
Submerged = 3	NM Special F	lashing (Inla	nd) = 2NM

LESSON 3 - CONTINUED

PART C - LIGHTS AND SHAPES

Overview

Introduction

This lesson deals with the display of lights and shapes on vessels engaged in towing and pushing. It contains Rule 24.

Objectives

After completing this lesson, you will be able to:

- **LIST** the four lights required to be displayed on a vessel that is towing.
- **STATE** what lights are displayed on a towing vessel when the length of the tow exceeds 200 meters.
- **STATE** what shape is displayed on a towing vessel when the length of the tow exceeds 200 meters.
- **STATE** what lights are displayed on a vessel pushing when rigidly connected in a composite unit.
- **LIST** the three lights displayed on a vessel when pushing ahead or towing alongside in international waters.
- **LIST** the three lights displayed on a vessel when pushing ahead or towing alongside in inland waters.
- **LIST** the two lights displayed on a vessel or object being towed.
- **STATE** what shape a vessel or object being towed would display if the tow exceeds 200 meters.
- **STATE** what lights would be displayed on a vessel being pushed ahead in international waters.
- **STATE** what two lights would be displayed on a vessel being pushed ahead in inland waters.
- **STATE** what two lights would be displayed on a vessel being towed alongside.

Overview

Objectives (Continued)

- **IDENTIFY** where to display all-round white lights on partly submerged vessels/objects being towed.
- **STATE** what type of shape is displayed on partly submerged vessels/objects being towed.
- **STATE** what additional shape is displayed on partly submerged vessels/objects being towed when the tow exceeds 200 meters in length in international waters.
- **STATE** what a towing vessel may do to indicate its presence to an approaching vessel.
- **STATE** what shall be done when it is impracticable for a vessel/object being towed to exhibit the lights or shapes required in international waters.
- **STATE** what two lights are displayed on a power-driven vessel pushing ahead or towing alongside on Western Rivers.
- **STATE** what type vessel shall not be required to exhibit the lights for towing.

Overview

In This Lesson

This lesson reviews the following topics:

Topic	See Page
Power-Driven Vessel When Towing	3-18
Composite Unit & Vessel Pushing Ahead or Towing Alongside	3-19
Vessels or Object Being Towed	3-21
Partly Submerged Vessel or Object	3-23
Special Circumstances	3-24
Illustrations	3-27

Reading Assignment

READ the following pages from the "Navigation Rules" book:

Pages 52 to 71, **Rule 24**

Power-Driven Vessel When Towing

Background

This section presents an overview of Rule 24 (a) in the "Navigation Rules" book.

INTERNATIONAL

INLAND

International.

Rule 24 (a) is the same as

Rule 24 (a)

ADD: (above "Towing")

"Towing astern"

HIGHLIGHT: power-driven

vessel, and towing

HIGHLIGHT: instead of,

and rule 23

UNDERLINE: <u>two masthead</u> <u>lights</u>, and <u>three such lights</u>

HIGHLIGHT: length of the tow,

and exceeds

CIRCLE: 200 meters

(ii) UNDERLINE: sidelights
(iii) UNDERLINE: sternlight
(iv) UNDERLINE: towing light
(v) UNDERLINE: tow exceeds

CIRCLE: 200 meters

UNDERLINE: a diamond shape

UNDERLINE: (Below the picture) length of tow exceeds

200 meters

UNDERLINE: (Below the picture) 200 meters or less

NOTE: Yellow over White, towing astern at night! (both international and inland

Composite Unit & Vessel Pushing Ahead or Towing Alongside

Background

This section presents an overview of Rule 24 (b) through (c) in the "Navigation Rules" book.

INTERNATIONAL

INLAND

Rule 24 (b)

HIGHLIGHT: pushing vessel and a vessel being pushed, and connected in, and a composite unit

UNDERLINE: <u>regarded as a power-driven vessel</u>, and <u>exhibit</u> the lights, and in Rule 23

ADD: (Below picture) "50 meters or more in length"

NOTE: Composite unit refers to rigidly connected by <u>mechanical</u> <u>means</u>. Treat this type vessel as one vessel not ingaged in towing.

Rule 24 (b) is the same as International.

UNDERLINE: (Below picture) less than 50 meters in length

Rule 24 (c)

HIGHLIGHT: vessel, pushing

ahead, and alongside CIRCLE: except

CIRCLE: composite unit (i) **HIGHLIGHT:** instead of,

and rule 23

HIGHLIGHT: vessel, pushing ahead,

and <mark>alongside</mark> CIRCLE: except

CIRCLE: composite unit
(i) HIGHLIGHT: instead of,

and rule 23

(i) **UNDERLINE:** <u>two masthead</u> <u>lights in a vertical line</u>

(ii) UNDERLINE: sidelights

(iii) UNDERLINE: sternlight

(i) **UNDERLINE:** two masthead lights in a vertical line

(ii) UNDERLINE: sidelights(iii) UNDERLINE: two towing lights

NOTE: "yellow over yellow, pushing ahead or alongside my inland fellow" "Only difference is: International = 1 white sternlight Inland = 2 yellow towing lights"

NOTE: (above the illustration) "No yellow towing light as with towing astern"

Composite Unit & Vessel Pushing Ahead or Towing Alongside

Rule 24 (d)	SHOULD READ: A power driven vessel to which paragraph (a) or (c) of this Rule apply shall also comply with Rule 23(a)(i) and 23(a)(ii) ADD: (above "(a)" with a line pointing to it) "towing astern" ADD: (above "(c)" with a line pointing to it) "pushing ahead, or towing alongside"	Rule 24 (d) is the same as International. UNDERLINE: (Below picture) When masthead lights for towing
	UNDERLINE: second masthead light aft	or pushing are exhibited aft, a forward masthead light is required

Vessel or Object Being Towed

Background

This section presents an overview of Rule 24 (e) and (f) in the "Navigation Rules" book.

INTERNATIONAL

INLAND

Rule 24 (e)

HIGHLIGHT: vessel or object being towed

Rule 24 (e) is the same as International.

ADD: (after "exhibit:") "No

masthead light"

(i) UNDERLINE: sidelights(ii) UNDERLINE: sternlight(iii) HIGHLIGHT: tow exceeds

200 meters

UNDERLINE: <u>a diamond shape</u> **ADD:** (above the diamond shape in the illustration) *"Tow over"*

200m"

INTERNATIONAL

INLAND

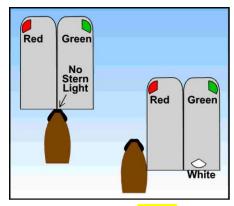
Rule 24 (f)

HIGHLIGHT any number, and being towed alongside, and or pushed in a group

UNDERLINE: <u>lighted as one</u> vessel

HIGHLIGHT: any number, and being towed alongside, and or pushed in a group

UNDERLINE: lighted as one vessel, except, in paragraph (f) iii: sidelights, and special flashing light



(i) HIGHLIGHT: vessel, and pushed ahead, and part of a composite unit, sidelights

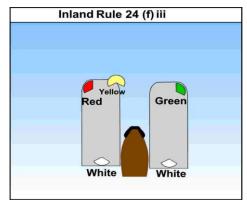
CIRCLE: not

ADD: (after "sidelights;") "only"
UNDERLINE: sidelights only
(ii) HIGHLIGHT: vessel, and

towed alongside

UNDERLINE: sternlight, and

sidelights



HIGHLIGHT: vessel, and pushed ahead, and part of a composite unit, sidelights, special flashing light

CIRCLE: not

ADD: (at the end of paragraph (i) "yellow 50-70 flashes per minute"

UNDERLINE: sternlight, and sidelights, special flashing light

Partly Submerged Vessel or Object

Background

This section presents an overview of Rule 24 (g) in the "Navigation Rules" book.

INTERNATIONAL

INLAND

Rule 24 (g)

HIGHLIGHT: partly submerged

(i) **UNDERLINE:** <u>less than</u>, and <u>in breadth</u>, one all-round white <u>light</u>, and <u>near</u>, and <u>forward end</u>, and near the after end

CIRCLE: 25 meters

HIGHLIGHT: except that dracones. (large oil/fuel bladder)

(ii) **UNDERLINE:** or more in breadth, and two additional allround white lights

CIRCLE: 25 meters

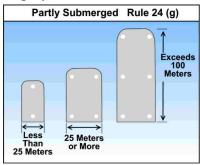
(iii) **UNDERLINE:** <u>exceeds</u>, and <u>in length</u>, and <u>additional all-round</u> white lights

CIRCLE: 100 meters

(iv) **HIGHLIGHT:** diamond shape, and additional diamond shape

UNDERLINE: <u>last vessel</u>, and <u>exceeds 200 meters</u>, and <u>forward</u>

EXAMPLE: This illustrates partly submerged objects being towed with the proper lights displayed.



Rule 24 (g) is the same as International **EXCEPT:**

- (i) **ADD:** (After sub-paragraph
- (i)) "No dracone provision"
- (iii) HIGHLIGHT: Provided

UNDERLINE: That any vessels or objects being towed alongside each other shall be lighted as one vessel or object;

- (iv) **ADD:** (at the end of subparagraph (iv)) "No provision for multiple day shapes if over 200 meters"
- (v) **ADD:** (before sub-paragraph
- (v) "Inland only"

HIGHLIGHT: towing vessel UNDERLINE: may direct a

searchlight

Special Circumstances

Background

This section presents an overview of Rule 24 (h) through (j) in the "Navigation Rules" book.

INTERNATIONAL

INLAND

Rule 24 (h)

HIGHLIGHT: impracticable, and to exhibit the lights or shapes

UNDERLINE: all possible measures shall be taken to light the vessel or object towed

ADD: (After paragraph) "Example: use search lights, chem-lights, flashlights, etc."

NOTE: Any time it is not feasible to show tow lights or day shapes, the towing vessel must still use something to advertise the tow.

Rule 24 (h) is the same as

International **EXCEPT**: **HIGHLIGHT**: exhibit the lights

ADD: (below the paragraph) "Only lights, NOT day shapes"

Rule 24 (i) Inland only

HIGHLIGHT: Western Rivers, and pushing ahead or towing alongside

ADD & UNDERLINE: (in the picture with an arrow pointing to the mast) "No masthead lights"

NOTE: This was added to Inland Waters (Western Rivers) due to low bridge clearance.

Special Circumstances

INTERNATIONAL

INLAND

Rule 24 (i) International

HIGHLIGHT: impracticable, and vessel not normally engaged in towing

UNDERLINE: shall not be required to exhibit those lights, and vessel in distress, and need of assistance, and by illuminating the towline

ADD: (below paragraph) "Example: Joe boater, towing a stranded buddy's boat"

NOTE: This waiver was added mostly for pleasure boaters acting as a good Samaritan who normally aren't towing other vessels. Vessel must still illuminate the tow in some fashion.

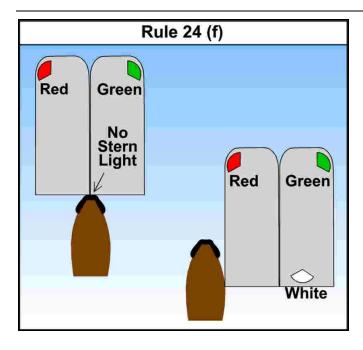
Rule **24** (i) **International** is the same as Rule **24** (j) **Inland**.

Illustrations

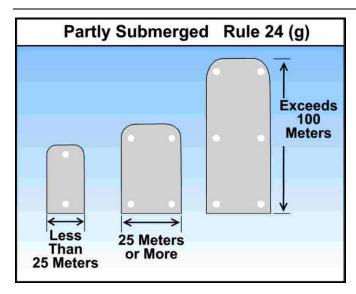
Instructions

Cut out the following illustrations and place them on the pages indicated.

On Page 54



On Page 56



LESSON 3 - CONTINUED

PART C - LIGHTS AND SHAPES

Overview

Introduction

This lesson deals with the display of lights and shapes on sailing vessels underway, vessels under oars, and fishing vessels. It contains Rules 25 and 26.

Objectives

After completing this lesson, you will be able to:

- **LIST** the two lights required on a sailing vessel underway.
- **STATE** what light a sailing vessel of less than 20 meters may display.
- **STATE** what lights a sailing vessel may display in addition to the required lights.
- **STATE** what a sailing vessel less than 7 meters and a vessel under oars shall display if they do not exhibit the prescribed lights.
- **STATE** what shape is displayed for a vessel under sail also being propelled by machinery.
- **STATE** what length vessel is not required to exhibit a shape when under sail and also being propelled by machinery in inland waters.
- **LIST** the two lights to be displayed on vessels engaged in trawling.
- **STATE** the shape to be displayed on vessels engaged in trawling.
- **STATE** what length vessel engaged in trawling is not obliged to display the masthead light.
- **STATE** what two additional lights a vessel engaged in trawling displays when making way through the water.
- **STATE** what lights a vessel engaged in fishing displays.
- **STATE** what shape a vessel engaged in fishing displays.
- **STATE** what light or shape a vessel engaged in fishing displays when there is outlying gear extended more than 150 meters.

Overview

Objectives (Continued)

• **STATE** what two additional lights a vessel engaged in fishing displays when making way through the water.

In This Lesson

This lesson reviews the following topics:

Topic	See Page
Sailing Vessels Underway & Vessels With Oars	3-31
Trawling	3-33
Fishing	3-34
Illustration	3-37

Reading Assignment

READ the following pages from the "Navigation Rules" book:

Pages 72 to 87, Rules 25 and 26

Sailing Vessels Underway & Vessels with Oars

Background

This section presents an overview of Rule 25 in the "Navigation Rules" book.

INTERNATIONAL

INLAND

Rule 25 (a)

HIGHLIGHT: sailing vessel underway

(i) UNDERLINE: sidelights(ii) UNDERLINE: sternlightNOTE: Sailing vessels have no

masthead light.

Rule 25 (a) is the same as International.

Rule 25 (b)

UNDERLINE: <u>less than</u>, and <u>be</u> <u>combined</u>, and <u>carried at or near</u> the top of the mast

CIRCLE: less than 20 meters **DOUBLE UNDERLINE:** <u>may</u> **ADD:** (in picture with an arrow pointing to vessels on this and

opposite page) "One or the other, NOT BOTH"

Rule 25 (b) is the same as International.

Rule 25 (c)

HIGHLIGHT: may, in addition, and at or near the top of the mast

UNDERLINE: two all-round lights, and upper being red and the lower green

ADD: (above paragraph with a line pointing to "in paragraph (a)") "side & sternlights"

ADD: (in picture, next to sailing vessel) "Red over-green sailing machine." This is a may only, does not have to show these lights.

Rule 25 (c) is the same as International.

Sailing Vessels Underway & Vessels with Oars

considered a power driven

vessel.

	INTERNATIONAL	INLAND
Rule 25 (d)	(i) UNDERLINE: less than CIRCLE: 7 meters	Rule 25 (d) is the same as International.
	UNDERLINE: have ready at hand an electric torch or lighted lantern (ii) HIGHLIGHT: under oars UNDERLINE: may exhibit the lights, and for sailing vessels, and have ready, and electric torch or lighted lantern	We do not use the term Flashlight in the NAVRULES book, as the light referred to does not flash.
Rule 25 (e)	HIGHLIGHT: propelled by machinery UNDERLINE: shall and conical shape, apex downwards MEMORY AID: Think of the	Rule 25 (e) is the same as International EXCEPT: UNDERLINE: less than, and may do so CIRCLE: 12 meters
	cone as a funnel lowering oil into an engine. NOTE: If the Cone is being flown, this vessel is	HIGHLIGHT: not required to exhibit this shape

Trawling

Background

This section presents an overview of Rule 26 (a) and (b) in the "Navigation Rules" book.

INTERNATIONAL

INLAND

Rule 26 (a)

HIGHLIGHT: engaged in

fishing

UNDERLINE: underway or at anchor, and only the lights, and

prescribed

Rule 26 (a) is the same as International.

Rule 26 (b)

HIGHLIGHT: engaged in trawling

ADD: (in upper left corner of page, with a line pointing to paragraph (b)) "Trawling examples: shrimper, scalloper, clammer."

(i) **HIGHLIGHT:** two all-round lights, and green, and white, and two cones

ADD: (In picture near lights) "Green over white, trawling at night"

(ii) **HIGHLIGHT:** masthead

UNDERLINE: abaft of and higher than, and less than, and not be obliged, and may do so

CIRCLE: 50 meters

ADD: (In illustration with a line pointing to the masthead light) "Required for 50 meters or longer"

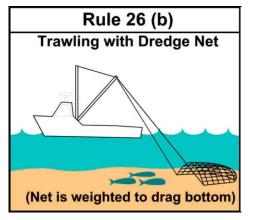
(iii) **HIGHLIGHT:** making way

through the water

UNDERLINE: sidelights, and

sternlight

Rule 26 (b) is the same as International.



Fishing

Background

This section presents an overview of Rule 26 (c) thru (e) in the "Navigation Rules" book.

INTERNATIONAL

INLAND

Rule 26 (c)

HIGHLIGHT: fishing, other

(i) **HIGHLIGHT:** two all-round

lights, and two cones

CIRCLE: red **CIRCLE:** white

than trawling

ADD: (In picture near lights) "Red over white, fishing at night"

(ii) **HIGHLIGHT:** outlying gear **UNDERLINE:** extending more than, and white light, and cone

CIRCLE: 150 meters

(iii) **HIGHLIGHT:** making way

through the water

UNDERLINE: sidelights, and

sternlight

ADD: (in picture) "No <u>masthead</u> lights for vessels engaged in

fishing"

Rule 26 (c) is the same as International.

Fishing

INTERNATIONAL

INLAND

Rule 26 (d)

HIGHLIGHT: additional signals

described in Annex II

UNDERLINE: <u>apply</u>, and <u>close</u> <u>proximity</u>, and <u>engaged in fishing</u>

NOTE: Additional lights for purse seiners and trawlers will be discussed in Part E – Annex II.

NOTE: The Inland additional signals for vessels engaged in fishing are described in

Rule 26 (f)

Rule 26 (e)

CIRCLE: not

HIGHLIGHT: engaged in

fishing

UNDERLINE: <u>only those</u> <u>prescribed</u>, <u>vessel of her</u>

<u>length</u>

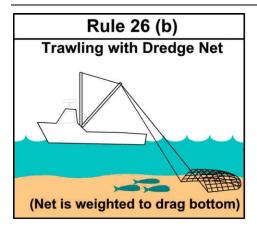
Rule 26 (e) is the same as International.

Illustration

Instructions

Cut out the following illustration and place it on the page indicated.

On Page 69



LESSON 3 - CONTINUED

PART C - LIGHTS AND SHAPES

Overview

Introduction

This lesson presents the display of lights and shapes on vessels not under command, restricted in their ability to maneuver, and vessels constrained by draft. It contains Rules 27 and 28.

Objectives

After completing this lesson, you will be able to:

- **STATE** what lights are displayed on a vessel not under command.
- STATE what shapes are displayed on a vessel not under command.
- **LIST** the two additional lights displayed on a vessel not under command when making way through the water.
- **STATE** what lights are displayed on a vessel restricted in its ability to maneuver.
- **STATE** what shapes are displayed on a vessel restricted in its ability to maneuver.
- **LIST** the three additional lights displayed on a vessel restricted in its ability to maneuver when making way through the water.
- **STATE** what additional lights and shapes, other than towing lights, are displayed on a vessel engaged in towing when severely restricted in its ability to deviate from its course.
- **LIST** the three lights displayed by a vessel engaged in dredging or underwater operations.
- **LIST** the three shapes displayed by a vessel engaged in dredging or underwater operations.
- **STATE** what lights are displayed on a vessel engaged in diving operations whenever the size of the vessel makes it impracticable to exhibit the standard lights.

Overview

Objectives (Continued)

- **STATE** what shape is displayed on a vessel engaged in diving operations whenever the size of the vessel makes it impracticable to exhibit the standard shapes.
- **STATE** what special lights are displayed on a vessel engaged in mineclearance operations.
- **STATE** what shapes are displayed on a vessel engaged in mineclearance operations.
- **STATE** what the lights or shapes indicate on a vessel engaged in mineclearance operations.
- **STATE** what length vessels are not required to exhibit the lights and shapes prescribed in Rule 27.
- **STATE** what additional lights may be displayed by a vessel constrained by its draft.
- **STATE** what shape may be displayed by a vessel constrained by its draft.

Overview

In This Lesson

This lesson reviews the following topics:

Topic	See Page
Vessels Not Under Command	3-42
Restricted in Their Ability to Maneuver	3-43
Dredging or Underwater Operations	3-45
Mine Clearance Operations	3-47
Exemptions	3-48
Vessels Constrained by Their Draft	3-49
Illustration	3-51

Reading Assignment

READ the following pages from the "Navigation Rules" Book:

Pages 88 to 103, Rules 27 and 28

Vessels Not Under Command

Background

This section presents an overview of Rule 27 (a) in the "Navigation Rules" book.

INTERNATIONAL

INLAND

Rule 27 (a)

HIGHLIGHT: not under command

Rule 27 (a) is the same as International.

NOTE: Not under command means having mechanical difficulty.

(i) **UNDERLINE:** <u>two all-round</u> red lights

(ii) UNDERLINE: two balls
(iii) HIGHLIGHT: when
making way through the water
UNDERLINE: sidelights, and
sternlight

ADD: (in picture with arrow pointing to mast) "No masthead light"

MEMORY AID: "Red over red,

ship is dead"

Restricted in Their Ability to Maneuver

Background

This section presents an overview of Rule 27 (b) in the "Navigation Rules" book.

INTERNATIONAL

INLAND

Rule 27 (b)

HIGHLIGHT: restricted in her

ability to maneuver

UNDERLINE: a vessel engaged in mineclearance operations

CIRCLE: except

(i) UNDERLINE: three allround lights, and red, and white (ii) UNDERLINE: three shapes,

and balls, and diamond

(iii) **HIGHLIGHT**: when making way

UNDERLINE: sidelights, and

sternlight

(iv) **HIGHLIGHT:** when at

anchor

UNDERLINE: in addition, and

prescribed in Rule 30

ADD: (after paragraph) "anchored vessels"

Rule 27 (b) is the same as International.

Restricted in Their Ability to Maneuver

INTER	2NATIC	NAT.

Rule 27 (c)

HIGHLIGHT: severely restricts the towing vessel and her tow in their ability to deviate from their course

ADD: (below paragraph with a line pointing to 24 (a)) "towing astern lights"

ADD: (below paragraph with a line pointing to (b)(i) and (ii)) "red over white over red lights, or ball diamond ball shapes"

Rule 27 (c) is not exactly the same as International.

INLAND

ADD: (below paragraph a line toward "Rule 24" and a caption saying "*all types of towing*".

ADD: (below paragraph with a line pointing to (b)(i) and (ii)) "red over white over red lights, or ball diamond ball shapes"

Dredging or Underwater Operations

Background

This section presents an overview of Rule 27 (d) and (e) in the "Navigation Rules" book.

INTERNATIONAL

INLAND

Rule 27 (d)

HIGHLIGHT: dredging or underwater operations, when restricted in her ability to maneuver, and in addition

ADD: (in upper right corner of page, with a line pointing to "subparagraphs (b)(i), (ii) and (iii)") "red over white over red, ball diamond ball, and running lights"

Rule 27 (d) is the same as International.

- (i) **UNDERLINE:** two all-round red lights or two balls, and obstruction exists
- (ii) **UNDERLINE:** two all-round green lights or two diamonds, and vessel may pass
- (iii) **HIGHLIGHT:** when at anchor

CIRCLE: instead of

ADD: (below the paragraph, with a line pointing from "instead of") "anchor lights/shape"

NOTE: <u>Do not</u> display the lights or shapes for anchored vessels if engaged in underwater operations, dredging or diving. Show underwater operations lights/shapes.

Dredging or Underwater Operations

INTERNATIONAL

INLAND ONLY

Rule 27 (d)(iv)

HIGHLIGHT: Dredge pipelines, and (1)(A) 50 to 70 times, and (B) all around, and (C) at least 2 miles, and (D) 1 and not more than 3.5 meters, and (E) equally spaced, and (F) Not more than 10 meters apart, and crosses a navigable channel, and does not cross, and sufficient in number, and (F) including the ends of a channel where the pipeline is separated to allow vessels to pass (whether open or closed)

UNDERLINE: (1) One row of yellow lights, and (2) Two red lights, and each end of the pipeline, and (A) all around, and (2) at least 2 miles, and (3) meter apart

Rule 27 (e)

HIGHLIGHT: size of vessel, and diving operations, and impracticable to exhibit all lights and shapes

(i) HIGHLIGHT: three allround lights, and red and white(ii) UNDERLINE: rigid replica,

and flag "A", and not less than

CIRCLE: 1 meter

Rule 27 (e) is the same as International.

Mineclearance Operations

Backg	round
Dacky	ıouna

This section presents an overview of Rule 27 (f) in the "Navigation Rules" book.

INTERNATIONAL

INLAND

Rule 27 (f)

HIGHLIGHT: mineclearance

operations

Interna on and

UNDERLINE: <u>in addition</u>, and <u>exhibit three all-round green</u>

lights or three balls

CIRCLE: 1000 meters

Rule 27 (f) is the same as International.

HIGHLIGHT: dangerous for another vessel to approach

ADD: Draw a circle around the ship on page 98 and write the following on the circle. "1000 meter danger area"

Exemptions

Background	This section presents an overview of Rule 27 (g) and (h) in the "Navigation Rules" book.		
	INTERNATIONAL	INLAND	
Rule 27 (g)	UNDERLINE: less than, and shall not be required to exhibit CIRCLE: 12 meters HIGHLIGHT: except those engaged in diving	Rule 27 (g) is the same as International.	
Rule 27 (h)	CIRCLE: are not HIGHLIGHT: signals of vessels in distress.	Rule 27 (h) is the same as International.	

Vessels Constrained by Their Draft

Background

This section presents an overview of Rule 28 in the "Navigation Rules" book.

INTERNATIONAL

INLAND

Rule 28

HIGHLIGHT: constrained by

No Inland Rule.

UNDERLINE: may, in addition, and three all-round red lights, and

or a cylinder

her draft

ADD: (below illustration) "International only"

MEMORY AID: The cylinder looks like a "can" such as a "draft"

beer can.

NOTE: Do not equate the number of red lights with the number of

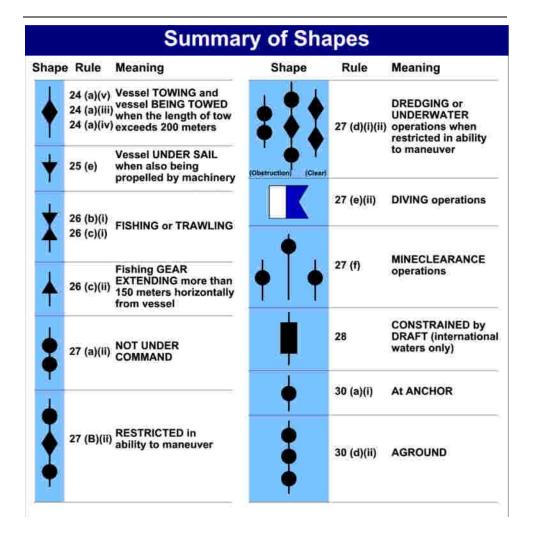
black ball day shapes.

Illustration

Instructions

Cut out the following illustration and place it on the page indicated.

On Page 87



LESSON 3 - CONTINUED

PART C - LIGHTS AND SHAPES

Overview

Introduction

This lesson presents the display of lights and shapes on pilot vessels, anchored vessels, vessels aground, and seaplanes. It contains Rules 29 through 31.

Objectives

After completing this lesson, you will be able to:

- **STATE** what lights are displayed on a vessel engaged on pilotage duty.
- **STATE** what additional lights are displayed on a vessel engaged on pilotage duty when underway.
- **STATE** what additional lights are displayed on a vessel engaged on pilotage duty when at anchor.
- **STATE** what lights are displayed on a vessel at anchor.
- **STATE** the maximum length vessel that may exhibit one all-round white light instead of two all-round lights when at anchor.
- **STATE** what vessels at anchor shall illuminate their decks.
- **STATE** what shapes a vessel aground displays.
- **STATE** what lights a vessel aground displays.
- **STATE** what length vessel when at anchor is not required to display anchor lights/shapes.
- **STATE** what length vessel when aground is not required to display anchor/aground lights/shapes.
- **STATE** what length vessel at anchor in a special anchorage area in inland waters is not required to display anchor lights/shapes.
- **STATE** where a seaplane shall exhibit lights and shapes when it is impracticable to display them as required.

Overview

In This Lesson

This lesson reviews the following topics:

Topic	See Page
Pilot Vessels	3-55
Anchored Vessels	3-56
Vessels Aground & Seaplanes	3-57

Reading Assignment

READ the following pages from the "Navigation Rules" Book:

Pages 104 to 113, Rules 29-31

Pilot Vessels

Background

This section presents an overview of Rule 29 (a) in the "Navigation Rules" book.

INTERNATIONAL

INLAND

Rule 29 (a)

HIGHLIGHT: pilotage duty

(i) **UNDERLINE:** two all-round lights, and upper being white, and lower red

ADD: (in illustration) "White over red, pilot ahead"

(ii) HIGHLIGHT: when

underway

UNDERLINE: sidelights and a

sternlight

ADD: (in picture with an arrow pointing to the mast) "No masthead light"

(iii) HIGHLIGHT: when at

anchor

UNDERLINE: in addition

Rule 29 (a) is the same as International.

Anchored Vessels

Background

This section presents an overview of Rule 30 (a) through (c) in the "Navigation Rules" book.

INTERNATIONAL

INLAND

Rule 30 (a)

HIGHLIGHT: at anchor

(i) **HIGHLIGHT:** in the fore

<mark>part</mark>

UNDERLINE: white light or,

and ball

(ii) **HIGHLIGHT:** at or near the

stern and at a lower level UNDERLINE: white light

Rule 30 (a) is the same as International.

Rule 30 (b)

UNDERLINE: less than, and

may exhibit, and white light

CIRCLE: 50 meters

Rule 30 (b) is the same as

International.

Rule 30 (c)

HIGHLIGHT: at anchor

CIRCLE: may

UNDERLINE: <u>vessel of</u>, and <u>and</u> <u>more in length</u>, and <u>illuminate her</u>

decks

CIRCLE: 100 meters

CIRCLE: shall

Rule 30 (c) is the same as

International.

Vessels Aground & Seaplanes

Background

This section presents an overview of Rule 30 (d) through 31 in the "Navigation Rules" book.

INTERNATIONAL

INLAND

Rule 30 (d)

Rule 30 (e)

HIGHLIGHT: aground

UNDERLINE: in addition

ADD: (under "paragraph (a) and

(b)") "anchor lights"

(i) UNDERLINE: two, and red

lights

(ii) **UNDERLINE:** three balls

MEMORY AID: "Red over red, the ship is dead" (Not under

command)

MEMORY AID: Knuckle Head

= **NUC-AL** = **N**ot **U**nder

Command plus Anchor Lights

HIGHLIGHT: when at anchor,

not in or near, and where other vessels normally navigate

UNDERLINE: less than, and

shall not be required

CIRCLE: 7 meters

NOTE: This exempts vessels under 7 meters from displaying anchor lights or shapes when outside normal traffic areas.

Rule 30 (d) is the same as International.

Rule 30 (e) is the same as International.

Vessels Aground & Seaplanes

	INTERNATIONAL	INLAND
Rule 30 (f)	HIGHLIGHT: when aground UNDERLINE: less than, and shall not be required CIRCLE: 12 meters	Rule 30 (f) is the same as International.
	ADD: (under paragraph, with a line pointing to "subparagraphs (d)(i) and (ii)") "anchor lights, not under command, three balls"	
	NOTE: This exempts vessels under 12 meters if aground from displaying lights and shapes.	
Rule 30 (g)	No International Rule 30 (g).	HIGHLIGHT: when at anchor in a special anchorage area UNDERLINE: less than, and shall not be required CIRCLE: 20 meters
Rule 31	ADD: "or a WIG craft" after "seaplane" HIGHLIGHT: impracticable, seaplane and WIG craft UNDERLINE: shall exhibit, and closely similar	Rule 31 is the same as International
	NOTE: Normally, seaplanes and WIG craft can't exactly match the described lights and shapes. Therefore, they are allowed to show these lights and shapes the best they can to meet requirements.	

LESSON 4

PART D - SOUND AND LIGHT SIGNALS

Overview

Introduction

This lesson deals with the definition of sound and light signals, equipment for sound signals, and maneuvering and warning signals required by vessels in sight of one another. It includes Rules 32 through 34.

Objectives

After completing this lesson, you will be able to:

- **STATE** what the term "whistle" means.
- **STATE** the duration of a "short blast."
- **STATE** the duration of a "prolonged blast."
- **STATE** what sound device(s) a vessel 12 meters or more in length shall be provided with.
- **STATE** what sound device(s) a vessel 100 meters or more in length shall be provided with.
- **STATE** what sound device(s) a vessel less than 12 meters in length shall be provided with if it does not carry the normally required sound devices.
- **MATCH** the meaning of maneuvering signals when maneuvering, meeting, or crossing with the proper sound signal.
- **STATE** at what distance power-driven vessels in sight of one another and meeting or crossing are required to indicate maneuvering by whistle signals in inland waters.
- **STATE** what a vessel shall do in inland waters upon hearing a maneuvering whistle signal of another vessel if in agreement.
- **STATE** what a vessel may supplement the maneuvering whistle signals with.
- **STATE** the color and minimum range of the all-round maneuvering light that may be used in international waters.

Overview

Objectives (Continued)

- **STATE** the color and minimum range of the all-round maneuvering light that may be used in inland waters.
- **MATCH** the meaning of maneuvering signals with the proper sound signal when overtaking.
- **STATE** what a vessel about to be overtaken shall sound to indicate its agreement to an overtaking signal in international waters.
- **STATE** what a vessel about to be overtaken shall sound to indicate its agreement to an overtaking signal in inland waters.
- **STATE** what signal is sounded to indicate doubt as to the intentions of an overtaking vessel.
- **STATE** what signal is given when a vessel is nearing a bend or an area of a channel or fairway where other vessels may be obscured.
- **STATE** what signal is given when a vessel is nearing a bend or an area of a channel or fairway where other vessels may be obscured and you hear one prolonged blast.
- **STATE** what signal is given when a vessel is leaving a dock or berth in inland waters.
- **STATE** what a vessel should do if it reaches agreement with another vessel in a meeting, crossing, or overtaking situation by using the radiotelephone.

Overview

In This Lesson

This lesson reviews the following topics:

Topic	See Page
Definitions	4-4
Equipment for Sound Signals	4-5
In Sight of / Meeting or Crossing	4-6
Supplementary Lights	4-7
Overtaking	4-8
Special Conditions	4-10
Illustrations	4-13

Reading Assignment

READ the following pages from the "Navigation Rules" book:

Pages 114 to 119, Rules 32-34

Definitions

Background	This section presents an overview of the main parts of Rule 32 in the "Navigation Rules" book.	
	INTERNATIONAL	INLAND
Rule 32 (a)	HIGHLIGHT: "whistle" UNDERLINE: any, and appliance capable of producing, and specifications in Annex III NOTE: Whistle technical requirements vary with vessel size and are defined in Annex III.	Rule 32 (a) is the same as International.
Rule 32 (b)	HIGHLIGHT: "short blast" UNDERLINE: about one second's duration	Rule 32 (b) is the same as International.
Rule 32 (c)	HIGHLIGHT: "prolonged blast" UNDERLINE: four to six seconds' duration NOTE: The term long blast is no	Rule 32 (c) is the same as International.

longer used.

Equipment for Sound Signals

Background

This section presents an overview of the main parts of Rule 33 in the "Navigation Rules" book.

INTERNATIONAL

INLAND

Rule 33 (a)

CIRCLE: 12 meters or more, 20 meters or more, 100 meters or more.

UNDERLINE: or more, and in addition, and a gong, and cannot be confused with that of the bell

UNDERLINE: bell, gong, may be replaced, provided that manual sounding, shall always be possible

Rule 33 (a) is the same as International.

.

Rule 33 (b)

UNDERLINE: <u>less than</u>, and <u>shall not be obliged</u>, and <u>but</u>, and shall, and some other means

CIRCLE: 12 meters

NOTE: Vessels less than 12 meters in length must have a sound-producing device capable of making sound signals. These sound-producing devices may include but aren't limited to cowbells, police whistles, air canister horns, pots & pans, and conch shell.

Rule 33 (b) is the same as International.

In Sight of / Meeting or Crossing

Background

This section presents an overview of the main parts of Rule 34 (a) in the "Navigation Rules" book.

INTERNATIONAL

INLAND

Rule 34 (a)

ADD: (above "RULE 34") "Signals of <u>Action</u>"

HIGHLIGHT: in sight of, and power-driven vessel

UNDERLINE: shall indicate,

and on her whistle
UNDERLINE: one short, and I

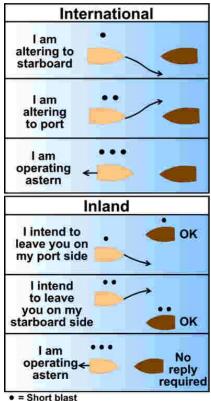
am, and starboard

UNDERLINE: two short, and <u>I</u>

am, and port

UNDERLINE: three short, and \underline{I}

am, and astern



ADD: (above "RULE 34") "Signals of Intent and Reply"

HIGHLIGHT: power-driven vessels, and in sight, and within half a mile

CIRCLE: half a mile

(i) **UNDERLINE:** one short, and I intend, and on my port side, and two short, and I intend, and on my starboard side, and three short, and I am, and operating astern

ADD: (after "astern propulsion") "only 'action' signal Inland"

(ii) **HIGHLIGHT:** upon hearing the one or two blast signal, and if in agreement, sound the same whistle signal, and vessel doubts the safety, and sound the danger signal

NOTE: Vessels that hear these Inland signals **shall** answer with the same signal if in agreement and if necessary, take action to effect passing. However, they may not need to maneuver. If **not** in agreement, sound the danger signal. (covered in rule 34(d))

Supplementary Lights

Background

This section presents an overview of the main parts of Rule 34 (b) in the "Navigation Rules" book.

INTERNATIONAL

INLAND

Rule 34 (b)

HIGHLIGHT: may supplement

UNDERLINE: by light signals

NOTE: A maneuvering light may be used and if used shall be executed with the whistle.

(i) **UNDERLINE:** one flash, and two flashes, and three flashes

NOTE: These light signals have the same characteristics as the whistle signals.

(ii) **HIGHLIGHT:** duration

UNDERLINE: <u>about one second</u>, and <u>about one second</u>, and <u>not less</u> than ten seconds

EXAMPLE: A vessel signals one flash (altering to starboard) waits ten or more seconds, then signals two short flashes (altering to port). This is so the one and two short flashes are not possibly confused for three short flashes.

(iii) **HIGHLIGHT:** all-round

white light

UNDERLINE: minimum range

of

CIRCLE: 5 miles

(i) **ADD:** (after paragraph) "Signals are NOT repeated."

(iii) **HIGHLIGHT**: all-round

white or yellow light

UNDERLINE: minimum range

<u>of</u>

CIRCLE: 2 miles

Overtaking

Background

This section presents an overview of the main parts of Rule 34 (c) and (d) in the "Navigation Rules" book.

INTERNATIONAL

INLAND

Rule 34 (c)

HIGHLIGHT: in sight, and narrow channel or fairway

ADD: (above "narrow channel or fairway") "Only time this rule applies"

(i) **HIGHLIGHT:** to overtake another

UNDERLINE: <u>two prolonged</u> <u>blasts</u>, and <u>one short blast</u>, and <u>two prolonged blasts</u>, and <u>two short</u> blasts

(ii) **HIGHLIGHT:** to be overtaken, and agreement

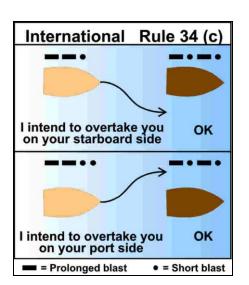
UNDERLINE: one prolonged, one short, one prolonged, and one short blast

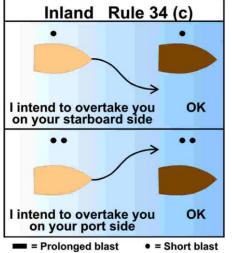
HIGHLIGHT: When in sight of one another

- (i) **UNDERLINE:** one short blast, and two short blasts
- (ii) **HIGHLIGHT:** agreement **UNDERLINE:** sound a similar sound signal

NOTE: If in agreement, a vessel being *overtaken* should sound the same 1 or 2 whistle signal the overtaking vessel sounded.

Overtaking signals require an answering signal or *permission* from the vessel being overtaken.





Overtaking

	INTERNATIONAL	INLAND
ule 34 (d)	HIGHLIGHT: fails to	Rule 34 (d) is the same as
	understand, and or is in doubt	International.
	UNDERLINE: <u>indicate such</u>	
	doubt by giving at least, and short	
	and rapid blasts	
	CIRCLE: five	

Special Conditions

Background

This section presents an overview of the main parts of Rule 34 (e) through (h) in the "Navigation Rules" book.

INTERNATIONAL

INLAND

Rule 34 (e)

HIGHLIGHT: nearing a bend or, and where other vessel may be

obscured

UNDERLINE: shall sound one

prolonged blast

HIGHLIGHT: Such signal shall

be answered

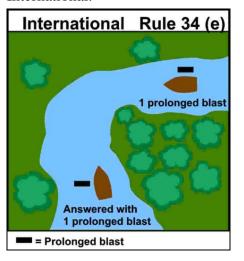
UNDERLINE: with a prolonged

blast

ADD: (to the left of paragraph)

"Bend Signal"

Rule 34 (e) is the same as International.



Rule 34 (f)

NOTE: If a large vessel has two or more whistles which are more than 100 meters apart, use only one for the previously mentioned signals due to the fact that other vessels may mistake them for two different vessels.

Rule 34 (f) is the same as International.

Special Conditions

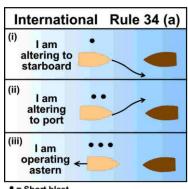
	INTERNATIONAL	INLAND
Rule 34 (g)	Rule 34 (g) doesn't apply to International.	HIGHLIGHT: leaving a dock or berth UNDERLINE: sound one prolonged blast NOTE: Remember that this rule is Inland only.
Rule 34 (h)	Rule 34 (h) doesn't apply to International.	HIGHLIGHT: reaches agreement, and by using the radiotelephone UNDERLINE: is not obliged to sound the whistle signals, and but may NOTE: Remember that this rule is Inland only.

Illustrations

Instructions

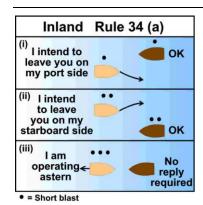
Cut out the following illustrations and place them on the pages indicated.

On Page 98



• = Short blast

On Page 99

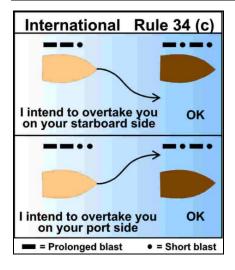


Illustrations

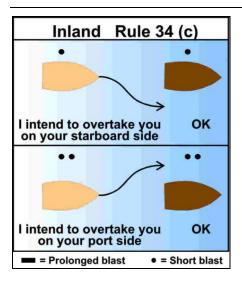
Instructions

Cut out the following illustrations and place them on the pages indicated.

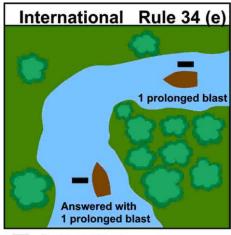
On Page 98



On Page 99



On Page 100



= Prolonged blast

LESSON 4 - CONTINUED

PART D - SOUND AND LIGHT SIGNALS

Overview

Introduction

This lesson deals with the sound and light signals required by vessels in restricted visibility, to attract attention, and to indicate a distress or emergency. It includes Rules 35 through 37.

Objectives

After completing this lesson, you will be able to:

- **STATE** what signal is sounded by a power-driven vessel in or near restricted visibility when making way through the water.
- **STATE** what signal is sounded by a power-driven vessel in or near restricted visibility when underway but stopped.
- **LIST** the six conditions when a vessel would sound one prolonged blast followed by two short blasts in or near restricted visibility.
- **STATE** what signal is sounded by a vessel engaged in fishing when at anchor and a vessel restricted in her ability to maneuver when carrying out her work at anchor in or near restricted visibility.
- **STATE** what signal is sounded by a manned vessel being towed in or near restricted visibility.
- **STATE** what signal is sounded by a vessel at anchor in or near restricted visibility.
- **STATE** what signal is sounded by a vessel of 100 meters or more in length at anchor in or near restricted visibility.
- **STATE** what signal may be sounded by a vessel at anchor in or near restricted visibility to give warning of its position.
- **STATE** what signal is sounded by a vessel aground in or near restricted visibility.
- **STATE** what size vessel is not obliged to give the above-mentioned signals in or near restricted visibility.

Overview

Objectives (Continued)

- **STATE** what additional signal may be sounded by a pilot vessel when engaged in pilotage duty in or near restricted visibility.
- **LIST** the five vessels that are not required to sound signals when at anchor in a special anchorage area in or near restricted visibility in inland waters.
- **STATE** two things a vessel may do to attract attention of another vessel.
- **STATE** what type of lights should be avoided when attracting the attention of another vessel in international waters.
- **STATE** what type signal is authorized in addition to the distress signals described in Annex IV in inland waters.

Overview

In This Lesson

This lesson reviews the following topics:

Topic	See Page
Underway in Restricted Visibility	4-20
Burdened Vessels in Restricted Visibility	4-21
Fishing/Working at Anchor in Restricted Visibility	4-22
A Vessel Towed in Restricted Visibility	4-23
At Anchor in Restricted Visibility	4-24
Aground in Restricted Visibility	4-25
Pilot Vessel in Restricted Visibility	4-26
Signals to Attract Attention and Distress Signals	4-27
Illustrations	4-29

Reading Assignment

READ the following pages from the "Navigation Rules" book:

Pages 118 to 125, Rules 35-27

Underway in Restricted Visibility

Background

This section presents an overview of the main parts of Rule 35 (a) and (b) in the "Navigation Rules" book.

INTERNATIONAL

INLAND

Rule 35

HIGHLIGHT: day or night

HIGHLIGHT: In or near, and by

Rules 35 (a) through (b) are the same as International.

Rule 35 (a)

HIGHLIGHT: vessel making

way through the water

UNDERLINE: not more than,

and <u>one prolonged blast</u> **CIRCLE:** 2 minutes

Making Way



One Prolonged Blast (Not more than 2-minute intervals)

Rule 35 (b)

HIGHLIGHT: vessel underway

but stopped

UNDERLINE: not more than, and two prolonged blasts, and interval of about 2 seconds

CIRCLE: 2 minutes

Not Making Way



Two Prolonged Blasts
(Not more than 2-minute intervals)

Burdened Vessels in Restricted Visibility

Background

This section presents an overview of the main parts of Rule 35 (c) in the "Navigation Rules" book.

INTERNATIONAL

INLAND

Rule 35 (c)

HIGHLIGHT: not under command, and restricted in her ability to maneuver, and constrained by her draft, and sailing vessel, and engaged in fishing, and engaged in towing

UNDERLINE: not more than, and one prolonged followed by

two short

CIRCLE: 2 minutes

ADD: at bottom of page with a line pointing to paragraph (c)

CENTERS

- C Constrained By Draft (CBD)
- E Engaged in fishing
- N Not Under Command (NUC)
- T Towing
- E Engaged in Trawling
- R Restricted in the ability to maneuver (RAM)
- S Sailing

ADD: (after the paragraph)

"Vessel Constrained by Her Draft is NOT included"

Fishing/ Working at Anchor in Restricted Visibility

Background

This section presents an overview of the main parts of Rule 35 (d) in the "Navigation Rules" book.

INTERNATIONAL

INLAND

Rule 35 (d)

HIGHLIGHT: engaged in

fishing, and restricted in her ability

to maneuver

UNDERLINE: at anchor

NOTE: Vessels restricted in ability to maneuver and fishing vessels carrying out their work **at anchor** shall instead of sounding the signal for a vessel at anchor, sound the signals for these vessels underway.

International Rule 35 (d) is covered in Inland Rules 35 (c).

of sound signals = # of words needed

One prolonged blast = moving. (Power driven only)

Two Prolonged blasts = Not Moving (power driven only)

One prolonged (plus) 2 short = All other vessels (C.E.N.T.E.R.S.)

One prolonged (plus) three short = I am being towed. (Last vessel, if manned)

A Vessel Towed in Restricted Visibility

Background

This section presents an overview of the main parts of Rule 35 (e) and (f) in the "Navigation Rules" book.

INTERNATIONAL

INLAND

Rule 35 (e)

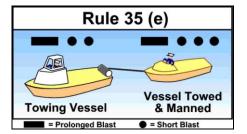
HIGHLIGHT: vessel towed, and last vessel

UNDERLINE: <u>if manned</u>, and <u>not more than</u>, and <u>one prolonged</u>,

and three short blasts

CIRCLE: 2 minutes

Rule 35 (e) is the same as International.



Rule 35 (f)

INTERNATIONAL

INLAND

HIGHLIGHT: composite, regarded as a power-driven vessel

Rule 35 (e) is the same as International.

At Anchor in Restricted Visibility

Background

This section presents an overview of the main parts of Rule 35 (g) in the "Navigation Rules" book.

INTERNATIONAL

INLAND

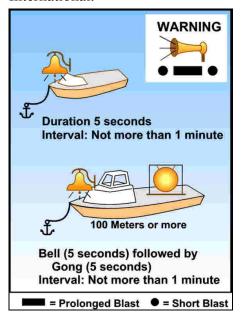
Rule 35 (g)

HIGHLIGHT: at anchor, and 100 meters or more, and to give warning

UNDERLINE: not more than, and ring the bell rapidly, and bell shall be sounded in the forepart, and immediately after the ringing of the bell the gong shall be sounded rapidly for about 5 seconds in the after part of the vessel, and may in addition, and one short, one prolonged and one short.

CIRCLE: one minute **CIRCLE:** 5 seconds

Rule 35 (g) is the same as International.



Aground in Restricted Visibility

Background

This section presents an overview of the main parts of Rule 35 (h) and 35 (i) in the "Navigation Rules" book.

INTERNATIONAL

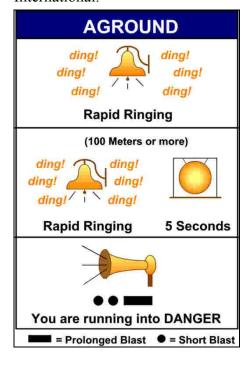
INLAND

Rule 35 (h)

HIGHLIGHT: aground, and shall, in addition

UNDERLINE: bell signal and if required the gong signal, and three separate and distinct strokes on the bell immediately before and after the rapid ringing of the bell, and may in addition

NOTE: Appropriate Whistle Signal - An example of an appropriate whistle signal is Morse code signal "U," two short blasts and one prolonged blast ("you are running into danger") or other signals listed in Pub 102, "International Code of Signals." Rule 35 (h) is the same as International.



Rule 35 (i)

HIGHLIGHT: 12 or more, less than 20

und stand shall make some other efficient sound signal, and 2 minutes

Rule 35 (i) is the same as International.

Rule 35 (j)

HIGHLIGHT: less than

12 meters

UNDERLINE: not be obliged, and but, and shall make some

other efficient sound signal, and 2 minutes

Rule 35 (j) is the same as

International.

Pilot Vessel in Restricted Visibility

Background

This section presents an overview of the main parts of Rule 35 (j) in the Navigation Rules" book.

INTERNATIONAL

INLAND

Rule 35 (k)

HIGHLIGHT: pilot vessel, may

Inland Rule 35 (k) is the same as International Rule.

UNDERLINE: <u>engaged on</u> <u>pilotage duty</u>, and <u>in addition</u>, and <u>identity signal</u>, and <u>four short</u> blasts

Rule 35 (I)

Inland Rule 35 (j) is not contained in International Rules.

HIGHLIGHT: special anchorage

area

UNDERLINE: shall not be required, and when anchored in a

(i) UNDERLINE: less than

CIRCLE: 20 meters

(ii) **UNDERLINE:** barge, canal boat, scow, or other nondescript

craft

Signals to Attract Attention & Distress Signals

Background

This section presents an overview of the main parts of Rule 36 and 37 in the "Navigation Rules" book.

INTERNATIONAL

INLAND

Rule 36

HIGHLIGHT: may make light or sound signals, and searchlight

UNDERLINE: cannot be mistaken for any signal, and elsewhere, and direction of the

danger

NOTE: *EMBARRASS* means to cause confusion. To put it clearly; don't blind people on the other vessels with your searchlight.

HIGHLIGHT: cannot be mistaken for any aid to navigation, and high intensity intermittent or revolving lights

UNDERLINE: shall be avoided

Inland Rule 36 is the same as International

Rule 37

HIGHLIGHT: described in Annex IV

Rule 37 is the same as International EXCEPT Inland includes high intensity white strobe.

HIGHLIGHT high intensity white light

UNDERLINE: 50 - 70 times per

minute

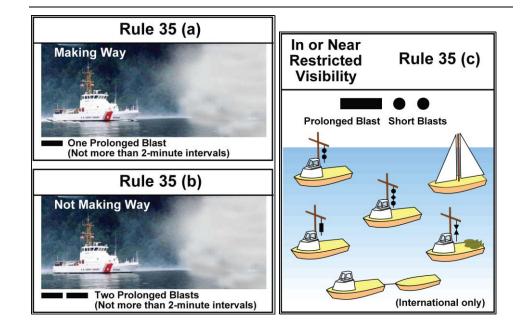
ADD: (below 50 - 70) "Same number of flashes as special flashing light - so don't confuse."

Illustrations

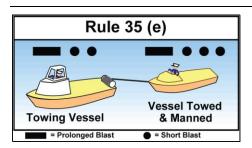
Instructions

Cut out the following illustrations and place them on the pages indicated.

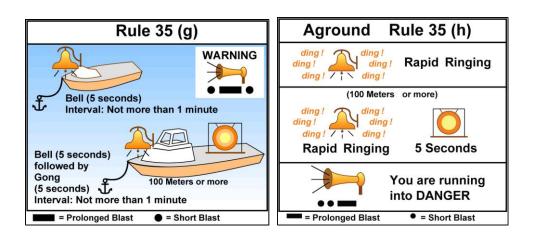
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LESSON 5

PART E - EXEMPTIONS AND ANNEXES

Overview

Introduction

This lesson covers the exemptions and annexes as found in Part E in the "Navigation Rules" book. It contains Rule 38 and Annexes I through V.

Objectives

After completing this lesson, you will be able to:

- **STATE** what vessels are entitled to permanent exemption from the Rules in international and in inland waters.
- **MATCH** the title of each annex with its number.
- **MATCH** the trawling activity with the proper light signal.
- **STATE** what additional lights a vessel fishing whose purse seine gear is hampering it may display when fishing in close proximity to other fishing vessels.
- **LIST** the seventeen signals used to indicate a distress that requires assistance in inland and international waters.
- **STATE** what the operator of each self-propelled vessel 12 meters or more in length must carry on board in inland waters.
- **STATE** when a vessel may be temporarily exempt from light and shape requirements in inland waters.
- **STATE** when a law enforcement vessel may display a flashing blue light in inland waters.
- **STATE** what light may be displayed by vessels engaged in government sanctioned public safety activities and commercial vessels performing similar functions in inland waters.
- **LIST** the four types of barges that require light displays at night and in periods of restricted visibility.
- **IDENTIFY** where to display all-round white lights.
- **DETERMINE** the color of the lights shown in an illustration of pipelines.

Overview

Annex Paragraph Numbering

In the Annexes International rules are listed by item number (i.e., 1.) and Inland rules are listed by regulation number (i.e., 84.01).

Aid to Remember Annexes

The following may be used to help remember what is contained in each of the Annexes.

Saying	Topic
<u>L</u> ove	<u>L</u> ights
<u>F</u> or	<u>F</u> ish
<u>S</u> ailors	<u>S</u> ound
<u>D</u> oesn't	<u>D</u> istress
<u>P</u> ay	Pilot (Inland)
	Love For Sailors Doesn't

In This Lesson

This lesson reviews the following topics:

Topic	See Page
Exemptions	5-3
Positioning and Technical Details of Lights and Shapes	5-4
Additional Signals for Fishing Vessels Fishing in Close Proximity	5-5
Technical Details of Sound Signal Appliances	5-7
Distress Signals	5-8
Pilot Rules	5-9
Illustrations	5-11

Reading Assignment

READ the following pages from the "Navigation Rules" book:

Pages 128 to 171, Rule 38, Annexes I through V

Exemptions

Background

This section presents an overview of Rule 38 in the "Navigation Rules" book. Vessels built before the effective dates of the Rules were given a grace period to comply with some of the changes. However, the 4- or 9-year grace periods have expired and no longer apply.

In addition, permanent exemptions were allowed on some changes and may still be in effect on some vessels on our waterways. All vessels built after the dates the Rules became effective are not subject to these exemptions.

INTERNATIONAL

INLAND

Rule 38

HIGHLIGHT: before the entry into force of these Regulations

ADD: (after paragraph) "Effective July 15, 1977"

HIGHLIGHT: (in subparagraphs (c), (d)(i), and (h)) permanent exemption

HIGHLIGHT: December 24, 1980

ADD: (after paragraph) "March 1, 1983 (Great Lakes)"

HIGHLIGHT: (in subparagraphs (d)(i), (d)(ii), and (d) (vi)) permanently exempt, and (in sub-paragraph (d)(iv)(l)) permanent exemption

Positioning and Technical Details of Lights and Shapes

Background

This section presents an overview of Annex I in the "Navigation Rules" book. In this course, the main attention is on the use of the Navigation Rules, not on the positioning and technical details of the lights and shapes. As long as you are aware of what is contained within this annex, you will be able to locate it when and if you ever need it.

List of Subsections

This annex contains the following subsections:

Definitions

Vertical positioning and spacing of lights

Horizontal positioning and spacing of lights

Details of location of direction-indicating lights for fishing vessels, dredgers, and vessels engaged in underwater operations

Screens for sidelights

Shapes

Color specification of lights

Intensity of lights

Horizontal sectors

Vertical sectors

Intensity of non-electric lights

Maneuvering light

High Speed Craft

Approval

Additional Signals for Fishing Vessels Fishing in Close Proximity

Background

This section presents an overview of Annex II of the "Navigation Rules" book. Fishing vessels will be displaying the lights described in Rule 26 (trawling - green over white and fishing - red over white). However, the following signals are used only when groups of fishing vessels are working together. They are not intended to prevent collisions at sea as are the lights used in Rule 26. If a fishing vessel is not within a group, these lights are not used.

Also, these lights are lower than and not as bright as the lights prescribed in Rule 26 to avoid confusion with lights for a towing vessel, pilot vessel, vessel aground, or vessel not under command.

INTERNATIONAL

INLAND

Annex II - 2.

HIGHLIGHT: engaged in trawling

UNDERLINE: shall exhibit
(a)(i) HIGHLIGHT: shooting

their nets

UNDERLINE: two white lights (a)(ii) **HIGHLIGHT:** hauling

their nets

UNDERLINE: one white over

one red light

(a)(iii) **HIGHLIGHT:** fast upon

an obstruction

UNDERLINE: two red lights

(b) **HIGHLIGHT:** pair trawling

(b)(i) **UNDERLINE:** searchlight

(b)(ii) **UNDERLINE:** the lights

prescribed in 2 (a) above

Same as International, except:

UNDERLINE: may exhibit



Additional Signals for Fishing Vessels Fishing in Close Proximity

INTERNATIONAL

INLAND

Annex II – 3.

HIGHLIGHT: fishing with purse

seine gear

UNDERLINE: may, and two yellow lights, and alternately every second, and only when, and hampered by its fishing gear

Same as International.



Technical Details of Sound Signal Appliances

Background

This section presents an overview of Annex III in the "Navigation Rules" book. In this lesson, the main attention is on the use of the Navigation Rules, not on the technical details of the sound signal appliances. As long as you are aware of what is contained within this annex, you will be able to locate it when and if you need it.

List of Subsections

This annex contains the following subsections:

Whistles

Frequencies and range audibility

Limits of fundamental frequencies

Sound signal intensity and range of audibility

Directional properties

Positioning of whistles

Fitting of more than one whistle

Combined whistle systems

Bell or Gong

Intensity of signal

Construction

Approval

Distress Signals

Background

This section presents an overview of Annex IV in the "Navigation Rules" book. Distress signals are also mentioned in Rule 37.

INTERNATIONAL

INLAND

Annex IV 1. (a) - (o)

HIGHLIGHT: gun, and fog-signalling, and red stars, and (SOS), and "Mayday", and N.C., and square flag and ball, and flames, and parachute flare, and orange-colored smoke, and arms, and radiotelegraph alarm, and radiotelephone alarm, and radio beacons, and radio communications

(p) **HIGHLIGHT:** high intensity white light

Annex IV - 2.

ADD: (in space below paragraph 2.) *Only use these signals when you have a real distress.*

Same as International.

Annex IV - 3.

HIGHLIGHT: International Code of Signals, and orange-colored canvas, and dye marker

NOTE: Rule 37 illustrates the distress signals discussed in this annex.

Same as International.

Pilot Rules

Background

This section presents an overview of Annex V in the "Navigation Rules"

book. These rules are contained in Inland Rules only.

Law Enforcement

Vessels - 88.05

HIGHLIGHT: Law enforcement vessels

UNDERLINE: <u>flashing blue light</u>, and <u>engaged in direct law</u>

enforcement or public safety activities

Public Safety Activities –

HIGHLIGHT: engaged in government sanctioned public safety

activities, and no special privilege

88.07 UNDERLINE: <u>alternately flashing red and yellow light signal</u>

Lights on Moored Barges

Rule 30 (h)

HIGHLIGHT: (h) barges, and (h)(i) projecting, and channel, and (h)(ii) reduces, and width of any channel to less than 80 meters, and (h)(iii) groups more than two barges, and over 25 meters, and (h)(iv) not moored parallel

UNDERLINE: (I) two unobstructed all-round white lights, and at least

1 nautical mile

HIGHLIGHT: (j) barge or a group of barges, and anchor, and made fast

HIGHLIGHT: (j)(i) group formation, and lighted, and outboard corners

HIGHLIGHT: (j)(ii) single barge moored in water, and lights, and

corner extremities

HIGHLIGHT: (j)(iii) barges moored in group formation, moored

in water, and lights, and corner extremities

HIGHLIGHT: (k) are exempt, and (l) are exempt

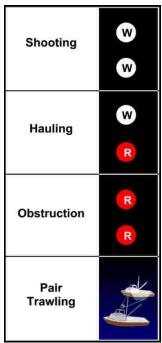
Illustrations

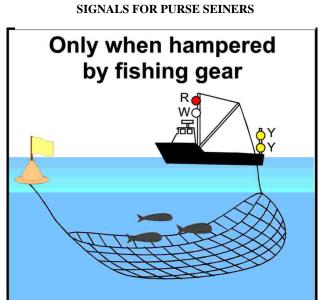
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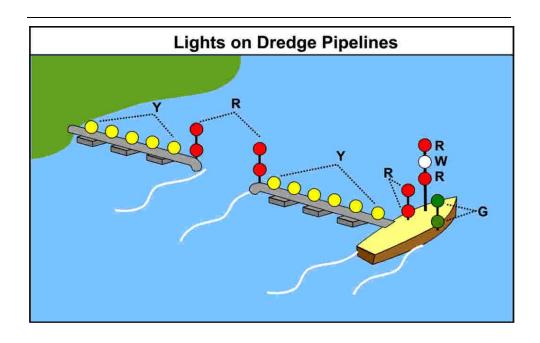
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SIGNALS FOR TRAWLERS





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Request for Feedback – DWO/NAVRUL Preparation Guide

Sug	gestions
and	Corrections

Please note your suggestions, corrections, and comments below.

Page	Location on Page	What Correction is Needed	

Your Comments

If you were writing this pamphlet, what improvements would you make? What was good about it? What did you not like about it? Please be specific in your comments/suggestions.

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