

28 Distress

Rule 36 – Signals to Attract Attention

Can make any signals which will not be confused with signals defined in these Rules. May direct search light in direction of danger so as not to embarrass. International states that **strobe lights** should be avoided since they can be confused with navigation lights, but strobe lights are allowed under Rule 37 for Inland waters.

Rule 37 – Distress Signals

1. Red star shells
2. Square and ball on orange surface
3. Die marker
4. Radio telegraph alarm
5. Continuous fog horn
6. SOS Morse code
7. Code flags “November” “Charlie”
8. Radio telephone alarm
9. Flames on vessel
10. MAYDAY by radio
11. Square flag and ball
12. EPIRB
13. Gun fired once per min
14. Red parachute flare
15. Waving arms
16. Orange smoke

Inland only: white strobe 50-70 times per min.

Rules of the Road John C. Kelly, 2003

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2 Navigation Rules

Restricted Visibility 27

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Rule 35 – Definitions Continued

- (g) Vessel at **anchor** <100 meters **SHALL**:
Ring bell once per minute for 5 seconds
Vessel at anchor 100+ meters:
Ring bell once per minute for 5 sec in forepart
Gong once per minute for 5 sec in after part
Vessel **MAY** sound • — • in addition to bell
and gong to warn of position. Note that
International has a special rule for a fishing
vessel at anchor, Rule d.
- (h) Vessel **aground**: same bell and gong signals a
(g) plus it **SHALL** also give three separate and
distinct strokes on bell before and after ringing
it.
- (i) Vessel <**12 meters** **SHALL** make some sound
at least every two minutes. Bells and gongs
are not required.
- (j) **Pilot vessel**: In addition to (a), (b), or (g),
MAY make four short blasts: ••••
- (k) **Inland Only** – This rule does not apply in
special areas defined by the Secretary for
vessels <20 meters and barges, canal boats, or
other such boats.

26 Sound Signals

Rule 34 – Continued

- (d) Doubt: When vessels fails to understand or is in doubt, vessel gives five short whistle blasts.

DOUBT/DANGER = ●●●●●

- (e) Bend: When nearing a bend vessel shall sound one prolonged blast, and it shall be answered in kind with one prolonged blast

BEND = —

- (f) If two whistles are 100+ meters apart only one whistle will be used.

Inland Only

- (g) Leaving dock: One prolonged blast = —
(h) When overtaking, it is permissible in Inland only to negotiate overtaking over VHF and not issue sound signals. This is not allowed in International.

Rule 35 – Sounds in Restricted Visibility

- (a) Making way: <2min —
(b) Underway but stopped: <2min — —
(c) Not under command, minesweeper restricted, sailing, fishing, towing: <2min — ● ●
(d) Fishing at anchor (Intl): Rule (c)
(e) Towed vessel is maned <2min — ● ● ●
(f) Vessel pushing is integral unit and (a) or (b) applies.

Navigation Rules

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International Rules

The international rules were formalized in the Convention on the International Regulations for Preventing Collisions at Sea, 1972 and became effective on July 15, 1977. The Rules, commonly called “72 COLREGS”, are part of the convention, vessels flying the flags of states ratifying the treaty are bound to the Rules. International waters are called the high seas. The military of any country may deviate from these Rules. (See Rule 1)

These Rules are applicable on waters outside of established navigation lines of demarcation. The lines are called COLREGS demarcation lines. Said another way, they apply to all waters which are not Inland.

Inland Rules

Following the signing of the 1972 Convention, a new effort was made to unify the inland navigation rules with the enactment of the Inland Navigation Rules Act of 1980. Every attempt was made to make the inland rules match the international rules, but there are differences that must be noted.

Rule 34 – Continued

- (b) Any vessel **MAY** supplement the sound signals in (a) with light signals of one, two, or three flashes to correspond to the sound signals. The flashes shall be about one second in length. An **International light** must be an all-around white light visible for five miles. The **Inland light** must also be all-around but may be either white or yellow, and it need be visible for only two miles.
- (c) Applies when in sight of one another and **overtaking**. The International Rule states that the vessels must be in a narrow channel, which makes since International Rules are mainly for the high seas. Again, there is a difference for International and Inland.

Prolonged Blast — Short blast •

International	Inland
— — •	•
“I intend to overtake you on your starboard side.”	
— — • •	• •
“I intend to overtake you on your port side.”	

International Answer — • — •
Inland Answer In kind: • or • • •
 The meanings are the same, but the sound is different.

24 Sound Signals

Conversions

5

Rule 33 – Equipment for Sound Signals

12+ m	Whistle, Bell
100+ m	Whistle, Bell, Gong
<12 m	Any sound device

The bell and gong may be replaced with any similar sounding device, but not the whistle. The bell and gong must be able to be done manually.

Meters	Feet
1	3.3
7	23.0
10	32.8
12	39.4
20	65.6
50	164.0
75	246.1
100	328.1
150	492.1
200	656.2

Rule 34 Maneuvering and Warning Signals

Note: This is one of few areas where there is a difference between International and Inland Rules.

- (a) Sounding a whistle when vessels are in sight of one another. The Inland Rule applies when vessels are within ½ mile of each other.

International

1 short “I am altering my course to starboard”

2 short “I am altering my course to port”

3 short “I am operating astern propulsion.”

No answers are given.

Inland

1 short “I intend to leave you on my port side.”

2 short “I intend to leave you on my strbd side.”

3 short “I am operating astern propulsion.”

1 and 2 short must answered in kind. If in doubt, sound the danger signal: 5 short.

6 Definitions

Rule 3 – Definitions

- a. **Vessel** - every description of water craft.
- b. **Power-driven vessel** – any vessel propelled by machinery.
- c. **Sailing vessel** – any vessel under sail and not using engine.
- d. **Vessel engaged in fishing** – any vessel with nets, lines, trawls, or other apparatus which restricts maneuverability. Does not apply to recreational fishing boats with trolling lines.
- e. **Seaplane** – any aircraft designed to maneuver on water.
- f. **Vessel not under command** – a vessel which through some exceptional circumstance is unable to maneuver as required by these Rules and is therefore unable to keep out of the way of another vessel.
- g. **Restricted in her ability to maneuver** – means a vessel which from the nature of her work is restricted in her ability to maneuver as required by these Rules and is therefore unable to keep out of the way of another vessel, e.g.
 - Vessels laying cable
 - Vessels dredging or surveying
 - Vessels taking on cargo or persons
 - Vessels engaged in mine clearance
 - Vessels engaged in towing
- h. Constrained by draft - NOTE: Constrained by draft does not apply to Inland Rules

Aground, Seaplane, Sounds 23

Rule 30 – Continued

- (c) If the anchored vessel is >100 m, the vessel must illuminate her decks.
- (d) A vessel aground shall exhibit both the normal all-around anchor lights as well as two all-around red lights in a vertical line. The day shape is three black balls in a vertical line.
- (e) A vessel at anchor <7 meters, and not in a narrow channel, need not exhibit an anchor light.
- (f) A vessel aground and <12 meters is not required to exhibit the two red over red balls for an aground vessel.

Rule 31 – Seaplanes

Seaplanes should exhibit lights and shapes as similar as possible to those for water vessels.

Rule 32 – Definitions Sound and Light Signals

- (a) Whistle – From Annex III, a whistle must be in the frequency 70-525 Hz.

70 – 200 Hz	Vessel 200+ m
130 – 350 Hz	Vessel 75-200 m
250 – 525 Hz	Vessel <75 m
- (b) Short blast – About one second in duration
- (c) Prolonged blast – 4-6 seconds (Note: the term is prolonged blast, not long blast.

22 Constrained, Pilot, Anchored

Rule 28 – Vessels Constrained by Draft

Only applies to international vessels. They shall display three all-around red lights. Day shape is a cylinder.

Rule 29 – Pilot Vessels

- (a) Vessel engaged in pilotage shall exhibit two all-around lights in a vertical line, white over red. When underway the all-around white over red replaces the masthead light. If the vessel is at anchor it will have both white over red and a single all-around white anchor light. The day shape for anchoring is a single ball. There is no day shape for a pilot vessel.
- (b) If a pilot vessel is not engaged in pilotage it shall exhibit normal lights for her length.

“White over red, pilot ahead.”

Rule 30 – Anchored or Aground

- (a) Vessel >50 m at anchor shall exhibit in the fore part an all-around white light or a black ball and at or near the stern another all-around white light lower in height than the one in the front.
- (b) If the vessel is <50 m, the second light is optional.

Rule 3 - Definitions

7

- i. Underway – any vessel not at anchor, made fast to shore, or aground.
- j. Length – means lengths overall, breadth means greatest breadth.
- k. Restricted visibility – means any condition in which visibility is restricted by fog, mist, snow, heavy rain, sand storms, or similar causes.

Below Definitions are Inland Only

- l. Western Rivers – Mississippi, its connecting tributaries, and other inland waters.
- m. Great Lakes – means the Great Lakes and their connecting tributaries and the Saint Lawrence River as far east as the lower exit of the Saint Lambert Lock.
- n. Secretary – means secretary responsible for Coast Guard.
- o. Inland Waters – navigable waters of the United States shoreward of the navigational demarcation lines dividing the high seas from harbors, rivers, and other inland waters of the United States.

Note: The COLREGS do not mention police vessels, but they may show a blue flashing light or two amber lights in horizontal line.

8 Lookout, Speed, Collision

Rule 4 – Application: Rules 5 – 10 apply to any condition of visibility.

Rule 5 – Lookout: Every vessel shall maintain a proper lookout by sight and hearing.

Rule 6 – Safe Speed: Every vessel shall operate at a safe speed so that the vessel can be stopped within an appropriate distance. Safe speed shall take into account: visibility, maneuverability, night-time, state of wind, sea, and current, draft in relation to depth of water.

Rule 7 – Risk of Collision: (a) If there is any doubt such risk shall be deemed to exist. (b) Proper use shall be made of radar if fitted and operational. (c) Assumptions shall not be made on the basis of scanty radar information. (d) Risk of collision exists if compass bearing does not change or bearing changes when approaching a towing vessel.

Rule 8 – (a) Action to Avoid Collision: Any action shall be positive and made in ample time. (b) Any change in course or speed shall be large enough to be readily noticeable. (c) Any action taken shall be allowed for passing at a safe distance. (d) If any doubts exist, slow speed, stop, or reverse.

Towing and Restricted 21

Rule 27 Continued – Towing and Restricted

- c. Towing vessel which is severely restricted shall exhibit both towing lights and restricted maneuverability lights all in a vertical line. The towing masthead lights would be on top and the all-around red/white/red would be below that. If the vessel is over 200 meters, there could be six lights in a vertical column: three white masthead lights (225°) and all-around red, white, red (360°). The day shape of ball, diamond, ball is also used.
- d. Vessel engaged in dredging which is also restricted shall exhibit the all-around red, white, red under the masthead light. The safe passing side shall have two all-around green lights (day shape is diamond, diamond). The unsafe side shall have two all-around red lights (day shape is ball, ball). The normal restricted day shape applies overall: ball, diamond, ball.
- e. Diving vessel shall exhibit three all-around lights same as restricted maneuverability: red, white, red. The day shape is code flag rigid in shape at least one meter in height.
- f. Mineclearance: three all-around green lights.
- g. Vessels <12 meters are exempt from this rule.
- h. These are note signals of distress.

20 Not Under Command

Rule 27 – Vessels Not Under Command or Restricted in Their Ability to Maneuver

Remember that a vessel not under command is one which due to exceptional circumstances is unable to maneuver as normally required.

- (a) A vessel not under command shall exhibit two all-around red lights in a vertical line. Day shape is two vertical black balls. When making way it should have stern and sidelights. The two all-around red lights replace the masthead lights.
- (b) A vessel restricted in her ability to maneuver (except a mine clearing vessel) shall exhibit three all around lights in a vertical line, red over white, over red. When underway, all normal lights apply, included masthead lights. When anchored, the RWR all-around lights should be displayed with the anchor light.

Condition	Lights	Shapes
Not Under Command	RR	BB
Aground	RR	BBB
Restricted Maneuver	RWR	BDB
Constrained by Draft	RRR	Cyl

Channels, Separation 9

Rule 9 – Narrow Channels: (a) Keep as near to the outer limit of the channel which lies on her starboard side. Vessels with a following current have right of way. Vessel proceeding against current shall hold as necessary. (b) Vessels less than 20 meters or a sailing vessel shall not impede large vessels. (c) Vessels engaged in fishing shall not impede vessels in narrow channel. (d) Vessels shall not cross a narrow channel so as to impede a vessel in the channel. (e) Vessels overtaking shall indicate intention by appropriate sound signals. (f) Vessels nearing a bend shall sound the appropriate signal. (g) Every vessel shall avoid anchoring in a narrow channel.

Rule 10 – Traffic Separation Schemes: (a) Does not relieve any other rules. (b) Proceed in the appropriate traffic lane in the direction of flow of traffic. (b) Join or leave at the termination of a lane. Enter at a small angle. (c) Avoid crossing. (d) Sailing vessels, and vessels <20 meters may use the inshore traffic zone. (e) A vessel should not cross or enter a separation zone except in case of emergency. (f) Be cautious around separation zones. (g) Avoid anchoring in separation zones. (h) Avoid separation zones by as wide a margin as possible. (I) Fishing shall not impede traffic in zone. (j) Sailing vessel or vessel <20 meters shall not impede traffic.

10 Sailboats & Overtaking

Rule 11 – Application: Vessels in Sight of One Another

Rule 12 – Sailing Vessels: Windward side is defined to be the side opposite the mainsail.

- (a) If each has wind on opposite side, the vessel with wind on the port side shall keep out of the way. (b) if they have wind on the same side, the vessel to windward shall keep out of the way. (c) If a vessel with wind on port side cannot determine if the other vessel is on a port or starboard tack, it shall keep out of the way. A sailboat is on a port tack if the wind is over the port side. These rule are tricky at night when the boom is not visible.

Rule 13 – Overtaking: (a) Overtaking vessel shall keep clear. (b) A vessel is overtaking when approaching more than 22.5° abaft of beam (or less than 67.5° from bow/stern centerline). (c) If vessel is in doubt it is overtaking, it shall assume it is overtaking. (d) A subsequent alteration of the bearing between the vessels shall not make the overtaking vessel a crossing vessel.

<u>Stand-On</u>	<u>Give-Way</u>
Starboard tack	Port tack
Leeward boat	Windward boat
Being overtaken	Overtaking
RED light	GREEN light

Fishing Vessels 19

Rule 26 – Fishing Vessels

- (a) A fishing vessel whether underway or anchored shall exhibit only lights and shapes in Rule 16.
- (b) A vessel engaged in trawling, by which is meant the dragging through the water a dredge net, shall exhibit: two all-around vertical lights, green over white. A masthead light abaft and higher than these lights. If vessel is <50, the second masthead light is optional, just as the case for normal power vessels. Sidelights and a sternlight are required when making way. The day shape is two cones inverted toward each other.
- (c) A vessel engaged in fishing, other than trawling, shall exhibit two all-around vertical lights red over white. Other rules are the same as (b) above.

- Fishing – all-around red over all-around white
– day shape: two cones apexes together
- Trawling – all-around green over all-around white
– day shape: two cones apexes together

Note that the day shapes are the same.

18 Sailing Vessels and Oars

Rule 25 Sailing Vessels and Vessels under Oars, Vessels not under power.

- (a) Sailing vessel underway: sidelights and sternlight. No masthead light. Note that by definition a sailing vessel is not under power.
- (b) In a sailing vessel <20 meters (65 ft) the stern light and sidelights can be replaced by a single tricolor light at the masthead. This is preferred since it is easier to see. You cannot display both. Note that when you are under power, you are not a sailing vessel, and therefore cannot use tricolor.
- (c) A sailing vessel may display in addition to the stern and side lights two all-around red and green lights at the top of the mast. The topmost light must be the red light. This means that two red or two green lights will be seen from the side of the vessel.
- (d) A sailing vessel <7 m (23 ft) should try and exhibit the standard lights, but it is permissible to use only a single white torch. The same is true for a vessel under oars.
- (e) A vessel under sail but also motoring (therefore a power vessel) must exhibit a cone apex down.

Give-way, Stand-on 11

Rule 14 – Head-on Situation: (a) When two power driven vessels are on near reciprocal courses, each shall alter course to starboard. (b) Such a situation exists when a vessel is seen directly ahead or the when the mast head lights are lined up. (c) When in doubt, the situation exists.

Rule 15 – Crossing Situation: When a risk of collision exists for power vessels, the vessel which has the other on her starboard shall keep out of the way. The vessel to the right has right of way. The vessel to the left must give way. Note that sailing vessels have windward rules.

Rule 16 – Action by Give-way Vessel: Take early and substantial action.

Rule 17 – Action by Stand-on Vessel: (a) Maintain course and speed unless other vessel is not changing. (b) Take avoidance action if collision cannot be avoided. (c) Do not alter course to port for a vessel on port side. (d) This rule does not relieve the give-way vessel of her obligation to keep out of the way.

Rule 18 – Responsibilities to Avoid other Vessels

	NUC	RAM	Fish	Sail
Underway	X	X	X	X
Sailing	X	X	X	
Fishing	X	X		

NUC = Not under Cmd, RAM = Rest Ability Man

12 Restricted Visibility Light and Shapes

Rule 19 – Restricted Visibility: (a) Applies to vessels not in sight of one another. (b) Proceed at safe speed. (c) Due regard for prevailing conditions. (d) If detection by radar alone avoid altering course to port, altering course towards a vessel abeam or abaft the beam. (e) If a fog signal is heard forward of beam reduce speed to the minimum to keep course.

Rule 20 – Application of Lights and Shapes: (a) Applies in all weathers. (b) Light rules apply from sunset to sunrise. (c) Use at other times of limited visibility. (d) Shape rules apply during the day. (e) Lights and shapes must comply with Annex I.

Rule 21 – Definitions: (a) **Masthead light**, white light over fore/aft centerline. 225° arc extending 22.5° abaft of beam. (b) **Sidelights**, red on port, green on starboard, 112.5°, 22.5° abaft of beam. (c) **Sternlight**, white light on stern, 135°, 67.5° on each side. (d) **Towing light**, yellow light having same characteristics as stern light. (e) **All-around light**, unbroken arc of 360°. (f) **Flashing light**, flashing more than 120 times per minute (2+ times per second). (g) **Inland only - special flashing**, yellow light flashing at 50-70 times per minute placed as far forward as possible on centerline of tow. 180-225°.

Day Shapes

17

Ball	Anchored
Ball, Ball	Danger side of dredge
Ball, Ball	NUC
Ball, Ball, Ball	Aground
Ball, Ball, Ball	Aground
Ball, Diamond, Ball	RAM
Cone apex down	Motor Sailing
Cone apex up	Extended fishing arm
Cones apex to apex	Fishing, Trawling
Cylinder	CBD (Intl)
Diamond	Towing 200m+
Diamond, Diamond	Safe side of dredge

Shape and Light Combinations

Ball, Ball	NUC
RA RA	
Ball, Ball, Ball	Aground
RA RA	
Ball, Diamond, Ball	RAM
RA WA RA	
Cylinder	CBD (Intl)
RA RA RA	

Note that both NUC and aground have the same lights but different day shapes.

16 Towing and Pushing

Rule 24 – Towing and Pushing

- (a) **Power towing:** normal lights plus **towing light** above stern light. **Two vertical masthead lights** replace regular masthead lights. If **tow is >200 m**, then **three vertical masthead lights** are required.
- (b) Pushing vessel and vessel being pushed are considered a **composite unit** and Rule 23 applies.
- (c) **Pushing ahead not as a composite unit** or towing along side: no towing light and two vertical masthead lights. **If Inland** the stern and towing light is replaced with two vertical towing lights.
- (d) **Rule 23 also applies** to all towing vessels so there could be a second higher masthead light aft.
- (e) **Vessel being towed:** sidelights and stern light, no masthead lights.
- (f) Vessel being **pushed ahead and not a composite unit** shall exhibit sidelights. If the vessel is being towed alongside, it must exhibit both sidelights and stern light, but no masthead lights. **Inland** requires special flashing.
- (g) **Partly submerged** object <25 m two all-around white lights, >25 meters two lights at each end.
- (h) If it is not possible to display towing lights, vessel must be light in best fashion possible. Lights are not needed when towing vessel in distress.

Light Visibility

13

Light Summary

Masthead	225°, 22.5 abaft of beam
Sidelights	112.5°, 22.5° abaft of beam
Sternlights	135°, 67.5° from centerline
Towing light	135°, 67.5° from centerline
All-around light	360°
Flashing light	360°, 120 per min
Special flashing	360°, yellow, 50-70 per min

Note: Only the sternlight will be visible when overtaking.

Rule 22 – Visibility of Lights: Distance in miles based upon length of vessel in meters

	>50	20-50	12-20	<12
Masthead	6	5	3	2
Side	3	2	2	1
Stern	3	2	2	2
Towing	3	2	2	2
All-around	3	2	2	2

14 Lights for Power Vessels

Light Diagrams

Rule 23 – Power Driven Vessels Underway:

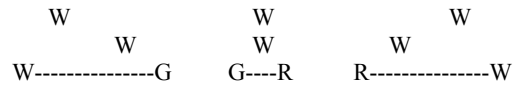
	M1	M2	SL	RL	YF	WA
(a) Power <50	*		*	*		
Power >50	*	*	*	*		
(b) Air-cushion	*	*	*	*	*	
(c) Power <12 m				*		*
(d) Inland Gt Lakes	*			*		*

- M1 – First masthead forward
- M2 – Second masthead aft and higher
- SL – Stern lights
- RL – Running (side lights)
- W – Stern or masthead
- R – Red sidelight
- G – Green sidelight
- YF – Yellow flashing all-around
- WA – White all-around
- RA – Red all-around
- GA – Green all-around

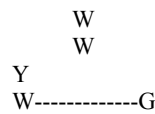
Power boats may always carry both masthead lights, but as the length decreases, some lights become optional.

- CDB – Constrained By Draft (Intl Only)
- RAM – Restricted Ability to Maneuver
- NUC – Not Under Command
- AGR – Aground
- PV – Power Vessel

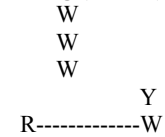
Power Vessels 50+ meters



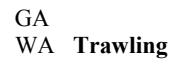
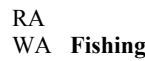
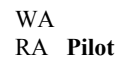
Towing (<200m)



Towing (200m+)



WA Anchored



Sailing Vessels



- Red over white, fishing tonight
- Green over white, trawling tonight
- White over red, pilot ahead
- Green and red, trouble ahead