

**CHAPTER 4
DISTRESS AND LIFESAVING SIGNALS AND
RADIOTELEPHONE PROCEDURES**

| | <i>PAGE</i> |
|--|-------------|
| SECTION 1: DISTRESS SIGNALS | 139 |
| SECTION 2: TABLE OF LIFESAVING SIGNALS | 140 |
| SECTION 3: RADIOTELEPHONE PROCEDURES | 147 |

CHAPTER 4

SECTION 1: DISTRESS SIGNALS

(PRESCRIBED BY THE INTERNATIONAL REGULATIONS FOR PREVENTING COLLISIONS AT SEA 1972)

To be used or displayed, either together or separately, by a vessel (or seaplane on the water) in distress requiring assistance from other vessels or from the shore.

1. A gun or other explosive signal fire at intervals of about a minute.
2. A continuous sounding with any fog-signaling apparatus.
3. Rockets or shells, throwing red stars fired one at a time at short intervals.
4. A signal made by radiotelegraphy or by any other signaling method consisting of the group ••• — — — ••• **SOS** in the Morse Code.
5. A signal sent by radiotelephony consisting of the spoken word “**MAYDAY**”.
6. The International Code Signal of distress indicated by **NC**.
7. A signal consisting of a square flag having above or below it a ball or anything resembling a ball.
8. Flames on the vessel (as from a burning tar barrel, oil barrel, etc.).
9. A rocket parachute flare or a hand flare showing a red light.
10. A smoke signal giving off a volume of orange-colored smoke.
11. Slowly and repeatedly raising and lowering arms outstretched to each side.
12. The radiotelegraph alarm signal.*
13. The radiotelephone alarm signal.**
14. Signals transmitted by emergency position-indicating beacons.***

NOTES: (a) Vessels in distress may use the radiotelegraph alarm signal or the radiotelephone alarm signal to secure attention to distress calls and messages. The radiotelegraph alarm signal, which is designed to actuate the radiotelegraph auto alarms of vessels so fitted, consists of a series of twelve dashes, sent in 1 minute, the duration of each dash being 4 seconds and the duration of the interval between 2 consecutive dashes being 1 second. The radiotelephone alarm signal consists of 2 tones transmitted alternately over periods of from 30 seconds to 1 minute.

(b) The use of any of the foregoing signals, except for the purpose of indicating that a vessel or seaplane is in distress, and the use of any signals which may be confused with any of the above signals is prohibited.

(c) Attention is drawn to the relevant sections of the Merchant Ship Search and Rescue Manual and the following signals:

- (i.) a piece of orange-colored canvas with either a black square and circle or other appropriate symbol (for identification from the air);
- (ii.) a dye marker.

* A series of twelve four second dashes at intervals of one second.







** Two audio tones transmitted alternately at frequency of 2200 Hz and 1300 Hz for a duration of 30 seconds to one minute.

*** Either the signal described in ** above or a series of single tones at a frequency of 1300 Hz.

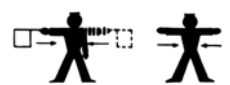









CHAPTER 4

SECTION 2: TABLE OF LIFESAVING SIGNALS

I LANDING SIGNALS FOR THE GUIDANCE OF SMALL BOATS WITH CREWS OR PERSONS IN DISTRESS









| | MANUAL SIGNALS | LIGHT SIGNALS | OTHER SIGNALS | SIGNIFICATION |
|---------------|---|--|--|---------------------------------------|
| Day Signals |  Vertical motion of a white flag or of the arms |  or firing of a green star signal |  or code letter K given by light or sound-signal apparatus | This is the best place to land |
| Night Signals |  Vertical motion of a white light or flare |  or firing of a green star signal |  or code letter K given by light or sound-signal apparatus | |

A range (indication of direction) may be given by placing a steady white light or flare at a lower level and in line with the observer




| | | | | |
|---------------|---|---|--|---|
| Day Signals |  Horizontal motion of a white flag or of the arms extended horizontally |  or firing of a red star signal |  or code letter S given by light or sound-signal apparatus | Landing here highly dangerous |
| Night Signals |  Horizontal motion of a light or flare |  or firing of a red star signal |  or code letter S given by light or sound-signal apparatus | |
| Day Signals |  1 Horizontal motion of a white flag, followed by 2 the placing of the white flag in the ground and 3 by the carrying of another white flag in the direction to be indicated |  1 or firing of a red star signal vertically and 2 a white star signal in the direction towards the better landing place | 1 or signalling the code letter S (...) followed by the code letter R (. _) if a better landing place for the craft in distress is located more to the <i>right</i> in the direction of approach 2 or signaling the code letter S (...) followed by the code letter L (. _) if a better landing place for the craft in distress is located more to the <i>left</i> in the direction of approach | Landing here highly dangerous. A more favorable location for landing is in the direction indicated |
| Night Signals |  1 Horizontal motion of a white light or flare 2 followed by the placing of the white light or flare on the ground and 3 the carrying of another white light or flare in the direction to be indicated |  1 or firing of a red star signal vertically and a 2 white star signal in the direction towards the better landing place | 1 or signalling the code letter S (...) followed by the code letter R (. _) if a better landing place for the craft in distress is located more to the <i>right</i> in the direction of approach 2 or signaling the code letter S (...) followed by the code letter L (. _) if a better landing place for the craft in distress is located more to the <i>left</i> in the direction of approach | |

SECTION 2.—TABLE OF LIFESAVING SIGNALS

II SIGNALS TO BE EMPLOYED IN CONNECTION WITH THE USE OF SHORE LIFESAVING APPARATUS

| | MANUAL SIGNALS | LIGHT SIGNALS | OTHER SIGNALS | SIGNIFICATION |
|---------------|---|--|---------------|--|
| Day Signals |  Vertical motion of a white flag or of the arms |  or firing of a green star signal | | In general: affirmative Specifically: rocket line is held — tail block is made fast — hawser is made fast — man is in the breeches buoy — haul away |
| Night Signals |  Vertical motion of a white light or flare |  or firing of a green star signal | | |
| Day Signals |  Horizontal motion of a white flag or of the arms extended horizontally |  or firing of a red star signal | | In general: negative Specifically: slack away - avast hauling |
| Night Signals |  Horizontal motion of a white light or flare |  or firing of a red star signal | | |

III REPLIES FROM LIFESAVING STATIONS OR MARITIME RESCUE UNITS TO DISTRESS SIGNALS MADE BY A SHIP OR PERSON

| | | | |
|---------------|---|--|---|
| Day Signals |  Orange smoke signal |  or combined <i>light</i> and <i>sound</i> signal (thunder-light) consisting of 3 single signals which are fired at intervals of approximately one minute | You are seen - assistance will be given as soon as possible (Repetition of such signal shall have the same meaning) |
| Night Signals |  White star rocket consisting of 3 single signals which are fired at intervals of approximately one minute | | |

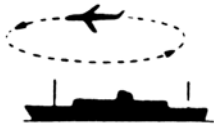



If necessary, the day signals may be given at night or the night signals by day

IV AIR-TO-SURFACE VISUAL SIGNALS

Signals used by aircraft engaged in search and rescue operations to direct ships towards an aircraft, ship or person in distress




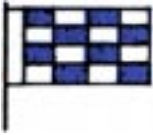

PROCEDURES PERFORMED IN SEQUENCE BY AN AIRCRAFT

SIGNIFICATION

| | | | |
|--|---|--|--|
|  <p>1 CIRCLE the vessel at least once.</p> |  <p>2 CROSS the vessel's projected course close AHEAD at a low altitude while ROCKING the wings. (See Note)</p> |  <p>3 HEAD in the direction in which the vessel is to be directed.</p> | <p>The aircraft is directing a vessel towards an aircraft or vessel in distress</p> <p>(Repetition of such signals shall have the same meaning)</p> |
| <p>4 CROSS the vessel's wake close ASTERN at low altitude while ROCKING the wings. (See Note)</p>  <p>NOTE - Opening and closing the throttle or changing the propeller pitch may also be practiced as an alternative means of attracting attention to that of rocking the wings. However, this form of sound signal may be less effective than the visual signal of rocking the wings owing to high noise level on board the vessel.</p> | | | <p>The assistance of the vessel is no longer required</p> <p>(Repetition of such signals shall have the same meaning)</p> |

Signals used by a vessel in response to an aircraft engaged in search and rescue operations

SIGNIFICATION

| | | | |
|--|---|--|---|
|  <p>Hoist "Code and Answering" pendant Close up; or</p> |  <p>Change the heading to the required direction; or</p> |  <p>Flash Morse Code signal "T" by signal lamp.</p> | <p>Acknowledges receipt of aircraft's signal</p> |
|  <p>Hoist international flag "N" (NOVEMBER); or</p> | |  <p>Flash Morse Code signal "N" by signal lamp.</p> | <p>Indicates inability to comply</p> |

SECTION 2.—TABLE OF LIFESAVING SIGNALS

V SURFACE-TO-AIR VISUAL SIGNALS







Communication from surface craft or survivors to an aircraft

| Use International Code of Signals or plain language by use of a torch, signalling lamps or signal flags. | | or | Use the following surface-to-air visual signals by displaying the appropriate signal on the deck or on the ground. |
|--|-------------------------------|----------------------|--|
| Message | International Code of Signals | ICAO* visual symbols | |
| - Require assistance | V | V | |
| - Require medical assistance | W | X | |
| - No or negative | N | N | |
| - Yes or affirmative | C | Y | |
| - Proceeding in this direction | | ↑ | |

* ICAO annex 12 — Search and rescue

Reply from an aircraft observing the above signals from surface craft or survivors



SIGNIFICATION

| | | | | | |
|--|--|--|--|-------------------------------|---------------------------|
|  Drop a message or |  Rock the wings (during daylight) or |  Flash the landing lights or navigation lights on and off twice (during hours of darkness) or |  Flash Morse Code signal "T" or "R" by light or | Use any other suitable signal | Message understood |
|  Fly straight and level without rocking wings or |  Flash Morse Code Signal "RPT" by light or | Use any other suitable signal | | | |

VI SIGNALS TO SURVIVORS

Procedures performed by an aircraft



SIGNIFICATION

| | | | |
|--|--|--|--|
| <p>Drop a message or</p>  | <p>Drop communication equipment suitable for establishing direct contact</p>  | | <p>The aircraft wishes to inform or instruct survivors</p> |
|--|--|--|--|

* High visibility colored streamer

Signals used by survivors in response to a message dropped by an aircraft

SIGNIFICATION

| | | | |
|---|--------------------------------------|--|--|
| <p>Flash Morse Code signal "T" or "R" by light or</p>  | <p>Use any other suitable signal</p> | | <p>Dropped messages is understood by the survivors</p> |
| <p>Flash Morse Code signal "RPT" by light</p>  | | | <p>Dropped messages is not understood by the survivors</p> |

“CONFLICT AND PERMANENT IDENTIFICATION OF RESCUE CRAFT” ***Shape, color, and positioning of emblem for medical transports**

1. The following emblems can be used separately or together to show that a vessel is protected as a medical transport under the Geneva Convention:



2. The emblem, positioned on the vessel's sides, bow, stern, and deck, shall be painted dark red on a white background.
 - a. On the vessel's sides the emblem shall extend from the waterline to the top of the ship's hull.
 - b. The emblems on the vessel's bow and stern must, if necessary, be painted on a wooden structure so as to be clearly visible to other vessels ahead or astern.
 - c. The deck emblem must be as clear of the vessel's equipment as possible to be clearly visible from aircraft.
3. In order to provide the desired contrast for infrared film or instruments, the red emblem must be painted on top of a black primer paint.
4. Emblems may also be made of materials which make them recognizable by technical means of detecting.

Illumination

1. At night and in restricted visibility the emblems shall be illuminated or lit.
2. At night and in restricted visibility all deck and overside lights must be fully lit to indicate that the vessel is engaged in medical operations.

Personal equipment

1. Subject to the instructions of the competent authority, medical and religious personnel carrying out their duties in the battle area shall, as far as possible, wear headgear and clothing bearing the distinctive emblem.

Flashing blue light for medical transports

1. A vessel engaged in medical operations shall exhibit one or more all-around flashing blue lights of the color prescribed in paragraph 4.
2. The visibility of the lights shall be as high as possible and not less than 3 nautical miles in accordance with Annex 1 to the International Regulations for Preventing Collisions at Sea, 1972.
3. The light or lights shall be exhibited as high above the hull as practical and in such a way that at least one light shall be visible from any direction.
4. The recommended blue color is obtained by using, as trichromatic co-ordinates:

green boundary $y = 0.065 + 0.805x$

white boundary $y = 0.400 - x$

purple boundary $x = 0.133 + 0.600y$

5. The frequency of the flashing light shall be between 60 and 100 flashes per minute.

Radar transponders

1. It should be possible for medical transports to be identified by other vessels equipped with radar by signals from a radar tran-

* In accordance with Article 27 of the Second Geneva Convention of 12 August 1949, this chapter also applies to coastal rescue craft.

sponder fitted on the medical transport.

2. The signal from the medical transport transponder shall consist of the group YYY, in accordance with article 40 of the Radio Regulations, followed by the call sign or other recognized means of identification.

Underwater acoustic signals

1. It should be possible for medical transports to be identified by submarines by appropriate underwater signals transmitted by the medical transports.

2. The underwater signal shall consist of the call sign of the ship preceded by the single group YYY transmitted in Morse on an appropriate acoustic frequency, e.g., 5 kHz.

Rescue craft carried by medical transports

1. Every rescue craft should be equipped with a mast on which a Red Cross flag measuring about 2 x 2 meters can be hoisted.

Flashing blue light for medical aircraft

1. The light signal, consisting of a flashing blue light, is established for the use of medical aircraft to signal their identity. No other aircraft shall use this signal. The recommended flashing rate of the blue light is between sixty and one hundred flashes per minute.

2. Medical aircraft should be equipped with such lights as may be necessary to make the light signal visible in as many directions as possible.

CHAPTER 4

SECTION 3: RADIOTELEPHONE PROCEDURES

RECEPTION OF SAFETY MESSAGES

Any message which you hear prefixed by one of the following words concerns SAFETY:

| | |
|------------------------------|--|
| MAYDAY (Distress) | Indicates that a ship, aircraft, or other vehicle is threatened by grave and imminent danger and requests immediate assistance. |
| PAN (Urgency) | Indicates that the calling station has a very urgent message to transmit concerning the safety of a ship, aircraft, or other vehicle, or the safety of a person. |
| SECURITE (Safety) | Indicates that the station is about to transmit a message concerning the safety of navigation or giving important meteorological warnings. |

If you hear these words, pay particular attention to the message and call the master or the officer on watch.

DISTRESS TRANSMITTING PROCEDURES

To be used only if IMMEDIATE ASSISTANCE is required:

USE PLAIN LANGUAGE WHENEVER POSSIBLE. If language difficulties are likely to arise use Tables 2 and 3 on Page 149, sending the word INTERCO to indicate that the message will be in the International Code of Signals. Call out letters as in Table 1 on Page 148. Call out numbers figure by figure as in Table 1.

To indicate DISTRESS:

1. If possible transmit the ALARM SIGNAL (i.e., two-tone signal) for 30 seconds to one minute, but do not delay the message if there is insufficient time in which to transmit the Alarm Signal.
2. Send the following DISTRESS CALL:
Mayday Mayday Mayday. This is . . . (name or call sign of ship spoken three times).
3. Then send the DISTRESS MESSAGE composed of:
Mayday followed by the name or call sign of ship;
Position of ship;
Nature of distress;
And, if necessary, transmit the nature of the aid required and any other information which will help the rescue.

EXAMPLES OF DISTRESS PROCEDURE

1. Where possible, transmit ALARM SIGNAL followed by spoken words Mayday Mayday Mayday. This is . . . (name of ship spoken three times, or call sign of ship spelled three times using TABLE 1, on Page 148) Mayday . . . (name or call sign of ship) Position 54 25 North 016 33 West I am on fire and require immediate assistance.
2. Where possible, transmit ALARM SIGNAL followed by spoken words Mayday Mayday Mayday . . . (name of ship spoken three times, or call sign of ship spelled three times using TABLE 1) Mayday . . . (name or call sign of ship) Interco Alfa Nadazero Unaone Pantafive Ushant Romeo Kartefour Nadazero Delta X-ray. "(Ship) in Distress Position 015 Degrees Ushant 40 miles I am sinking."
3. Where possible, transmit ALARM SIGNAL followed by spoken words Mayday Mayday Mayday . . . (name of ship spoken three times, or call sign of ship spelled three times using TABLE 1) Mayday . . . (name or call sign of ship) Interco Lima Pantafive Kartefour Bissotwo Pantafive November Golf Nadazero Unaone Soxisix Terrathree Terrathree Whiskey Charlie Bravo Soxisix. "(Ship) in Distress Position Latitude 54 25 North Longitude 016 33 West I require immediate assistance I am on fire."

TABLE 1
PHONETIC ALPHABET AND FIGURE SPELLING TABLES
 (May be used when transmitting plain language or code.)

| Letter | Word | Pronounced as | Letter | Word | Pronounced as |
|----------|---------|---------------------------------------|----------|----------|--|
| A | Alfa | AL FAH | N | November | NO VEM BER |
| B | Bravo | BRAH VOH | O | Oscar | OSS CAH |
| C | Charlie | CHAR LEE or SHAR LEE | P | Papa | PAH PAH |
| D | Delta | DELL TAH | Q | Quebec | KEH BECK |
| E | Echo | ECK OH | R | Romeo | ROW ME OH |
| F | Foxtrot | FOKS TROT | S | Sierra | SEE AIR RAH |
| G | Golf | GOLF | T | Tango | TANG GO |
| H | Hotel | HOH TELL | U | Uniform | YOU NEE FORM or OO NEE FORM |
| I | India | IN DEE AH | V | Victor | VIK TAH |
| J | Juliett | JEW LEE ETT | W | Whiskey | WISS KEY |
| K | Kilo | KEY LOH | X | X-ray | ECKS RAY |
| L | Lima | LEE MAH | Y | Yankee | YANG KEY |
| M | Mike | MIKE | Z | Zulu | ZOO LOO |

NOTE: The syllables to be emphasized are **boldfaced**.

| Figure or Mark to be Transmitted | Word | Pronounced as | Figure or Mark to be Transmitted | Word | Pronounced as |
|----------------------------------|------------|-----------------|----------------------------------|------------|---------------|
| 0 | NADAZERO | NAH-DAH-ZAY-ROH | 6 | SOXISIX | SOK-SEE-SIX |
| 1 | UNAONE | OO-NAH-WUN | 7 | SETTESEVEN | SAY-TAY-SEVEN |
| 2 | BISSOTWO | BEES-SOH-TOO | 8 | OKTOEIGHT | OK-TOH-AIT |
| 3 | TERRATHREE | TAY-RAH-TREE | 9 | NOVENINE | NO-VAY-NINER |
| 4 | KARTEFOUR | KAR-TAY-FOWER | Decimal point | DECIMAL | DAY-SEE-MAL |
| 5 | PANTAFIVE | PAN-TAH-FIVE | Full stop | STOP | STOP |

NOTE: Each syllable should be equally emphasized.

SECTION 3.—RADIOTELEPHONE PROCEDURES

TABLE 2

Position in Code

- (1) **By Bearing and Distance from a Landmark**
 Code letter **A** (Alfa) followed by a three-figure group for ship's TRUE bearing from landmark;
Name of landmark:
 Code letter **R** (Romeo) followed by one or more figures for distance in nautical miles.
- or**
- (2) **By Latitude and Longitude**
Latitude
 Code letter **L** (Lima) followed by a four-figure group; (2 figures for Degrees, 2 figures for Minutes) and either—**N** (November) for Latitude North, or **S** (Sierra) for Latitude South.
Longitude
 Code letter **G** (Golf) followed by a five-figure group; (3 figures for Degrees, 2 figures for Minutes) and either—**E** (Echo) for Longitude East, or **W** (Whiskey) for Longitude West.

TABLE 3

Nature of Distress in Code

| Code Letters | Words to be transmitted | Text of Signal |
|-----------------------------------|--------------------------|--|
| AE | Alfa Echo | I must abandon my vessel. |
| BF | Bravo Foxtrot | Aircraft is ditched in position indicated and requires immediate assistance. |
| CB | Charlie Bravo | I require immediate assistance. |
| CB6 | Charlie Bravo Soxisix | I require immediate assistance, I am on fire. |
| DX | Delta X-ray | I am sinking. |
| HW | Hotel Whiskey | I have collided with surface craft. |
| Answer to Ship in Distress | | |
| CP | Charlie Papa | I am proceeding to your assistance. |
| ED | Echo Delta | Your distress signals are understood. |
| EL | Echo Lima | Repeat the distress position. |

NOTE: A more comprehensive list of signals may be found in Chapter 2.