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## 12.9 Signs and Signals

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## 12.9 Signs and Signals

### INTRODUCTION

1. The primary function of all NCI Watchkeepers is to spot any vessel or person in difficulty or at risk, whether on land or at sea, and immediately report the essential facts to HMCG.
2. Distress, Urgency and Safety communications are generally communicated by radio, but there is a wide range of other signs and signals that indicate a vessel or person requires assistance.

### SUPPLEMENTARY READING

3. In order to have a working knowledge of Signs and Signals, all Watchkeepers must possess a level of underpinning knowledge, comprising:
  - ✓ Watchkeeping – Section 12.1
  - ✓ Logbooks – Section 12.2
  - ✓ Incident Reporting – Sections 12.3A and 12.3B

### FLARES AND SMOKE

4. A commonly encountered method for indicating distress is the use of flares and/or smoke signals. They raise an alarm as well as helping to pinpoint the target's position.

#### Red parachute (or rocket) flares



- visible for up to 25 miles
- rising to approximately 300 metres before igniting
- red flare floats down on a small parachute for about 40 seconds
- leaves a smoke trail

**NOTE:** if there is a trail as it goes up, it may be only a firework

#### Red hand-held flares



- visible for up to 7 miles
- burn for approximately 1 minute
- may be used in daylight or at night close to shore

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### Day / night flares



- smoke at one end, red flare at the other
- burn for approximately 20 seconds
- may be used by divers

### Orange smoke



- visible for up to 5 miles
- burns for approximately 1 or 3 minutes (depending on type used)
- helps aircraft pinpoint target and indicate wind direction

**NOTE:** smoke will disperse quickly in strong winds

### White flares



- are used for illumination purposes OR as
- a collision warning OR to
- advise sender that their distress signal has been seen

**NOTE:** these are not a distress/urgency signal but, if in doubt as to colour or purpose, inform HMCG

### Laser beam or LED 'flares'



- not yet internationally recognised as distress signals
- becoming increasingly popular because of their long life and range
- perceived to be safer than pyrotechnics, especially on smaller vessels

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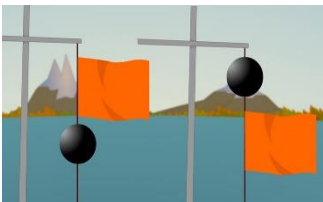
### OTHER RECOGNISED VISUAL DISTRESS SIGNALS



A person raising and lowering their arms repeatedly



Flames or heavy smoke from a vessel



A ball over / under a square shape



Distress flags 'N' over 'C' (from International Code of Signals) – see Flag Signals below



A gun or other explosive signal fired at intervals of about one minute

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Continuous sounding of a foghorn

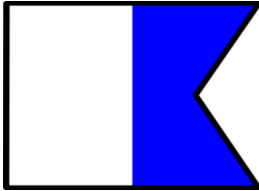


There are other unofficial means of signalling distress / attracting attention:

- repeated blowing of a whistle or air horn
- flashing lights
- shouts of 'Help'
- a piece of material waved on the end of an oar
- an ensign hoisted upside down

**NOTE:** any unusual activity observed could be an indication that assistance is needed, if in any doubt contact HMCG

### DIVERS' SIGNALS



5. When a diver's signal is observed, you must look for their attendant dive boat, which should be flying flag 'A'. This is an international code flag 'Alfa' (white hoist blue swallow-tail fly) meaning "*I have a diver down, keep well clear at slow speed.*" If the dive boat appears to have lost the diver, alert HMCG immediately.

#### 6. The diver is OK



To mark their position, divers may use a surface marker buoy (SMB), which is a long brightly coloured tube deployed at the surface after a dive to get the attention of the boat crew and any other boats in the area. The SMB does not indicate that the diver is in distress. In addition, the diver in this picture is also displaying the recognised hand signal for '*I am OK*', that is both arms are touching in a ring above the head.

Where only one arm is free and the diver is **OK**, they will touch the top of their head with their fingertips.

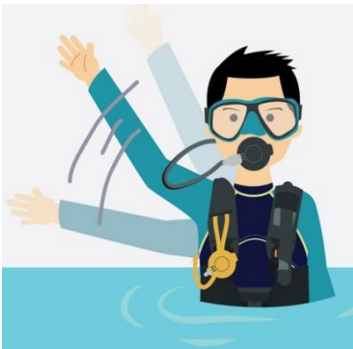


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Often the first hand signal that divers learn is this signal for '**OK**' – the thumb and index finger are joined to form a circle, whilst extending the other fingers. However this is not easily seen from a boat or the air, unlike the two signals above.

### 7. The diver is NOT OK



One or both arms are being waved quickly at the side of the body in a wide arc from horizontal position to a position over the head. This signal indicates **emergency / distress / help / pick me up**. When in the horizontal position, the diver's hand may strike the water surface. The diver's hand(s) may be open or clenched in a fist.








### FLAG SIGNALS

8. The International Code of Signals is a system of signals and codes for use by vessels to communicate important messages. Its purpose is to provide easily understood information, especially when language difficulties could arise.
9. Marine radio is now the most common means of communication, however many vessels still carry code flags for use if radio communications cannot be established.
10. Watchkeepers should be able to identify commonly used code flags and also know where to find the ready reference file in their Station. Some of the most common signals are:

|  |       |  |
|--|-------|--|
|  | Alfa  | <i>'I have a diver down; keep well clear at slow speed'</i>        |
|  | Bravo | <i>'I am taking in or discharging or carrying dangerous goods'</i> |

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|   |          |  |  |
|---|----------|--|--|
|    | Foxtrot  | <i>'I am disabled; communicate with me / HMCG'</i> |  |
|    | November | 'Negative'<br>'No'                                 | When used in combination, November over Charlie, <i>'I require immediate assistance'</i> |
|    | Charlie  | 'Affirmative'<br>'Yes'                             |  |
|    | Oscar    | <i>'Man overboard'</i>                             |  |
|    | Uniform  | <i>'You are running into danger'</i>               |  |
|  | Victor   | <i>'I require assistance'</i>                      |  |
|  | Whisky   | <i>'I require medical assistance'</i>              |  |

### SHAPES, LIGHTS AND SOUND SIGNALS

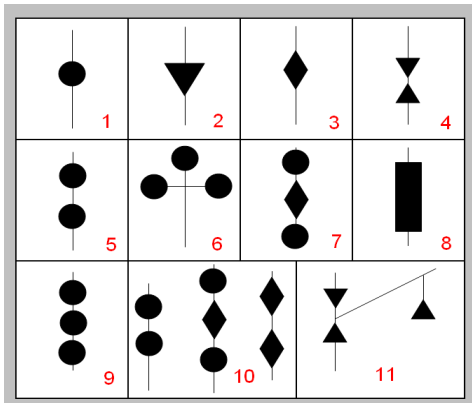
11. To indicate the status of a vessel and the direction in which a vessel underway is moving the International Regulations for Preventing Collisions at Sea (COLREGs) set out the:

- actions to be taken by vessels in all states of weather visibility
- lights to be fitted to a vessel
- day shapes that should be available
- sound signals
- signalling equipment

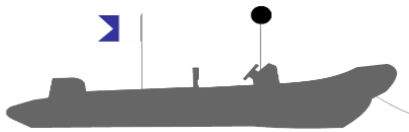
### VESSEL SIGNS – day shapes

12. All vessels must display navigation lights at night and in restricted visibility conditions. In addition, vessels engaged in certain activities must also show distinguishing lights by night and 'day shapes' by day. Day shapes are mast head signals which visually indicate the status of, and activities being undertaken by, a vessel to other vessels on navigable waters. For example:

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1. Vessel at anchor
2. Vessel under sail but under propulsion
3. Vessel towing and tow
4. Vessel trawling
5. Vessel not under command (NUC)
6. Minesweeping (naval)
7. Restricted in ability to manoeuvre
8. Vessel constrained by draught
9. Vessel aground
10. Dredging or underwater operations
11. Fishing vessel other than trawling



Vessel at anchor with divers down



Towing vessel and vessel being towed

13. As a minimum, Watchkeepers must be able to recognise the following day shapes:

- 'not under command (NUC)'
- 'vessel aground'
- 'vessel at anchor'

Other locally important signals (such as 'dredging in progress') must also be known or easily accessed as a picture reference within the Station.

### VESSEL SIGNS – night signs

14. Whilst it is only in exceptional circumstances that Stations would open during the hours of darkness, poor visibility may mean that there are times when a Watchkeeper would need to understand what the vessel is communicating with the lights on display. For reference purposes, and because it is part of the DFS requirements, a full list of navigation light combinations must be made available in your Station.

### BUOYS, BEACONS AND MARKS

15. You must be familiar with the buoys, beacons and marks within the visual range of your Station and what they are communicating to mariners and people on shore. The meaning of all buoys and beacons is to be found in the '*Symbols and Abbreviations used on Admiralty Paper Charts NP5011*' – usually shortened just to 'Admiralty Chart 5011', which is available in your Station.

16. **Buoys** – are floating marks indicating shipping channels, danger areas and safe water. Buoys can be differentiated from each other by the:

- colour of their light and flashing sequence
- colour and combination of colours on the buoy
- shape of the topmark



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IALA buoyage system provides for six types of navigation marks:

|    |  |  |
|----|--|--|
| 1. | <p><b>Lateral Marks</b> – indicate the port and starboard hand sides of a navigable channel; under the <b>IALA A</b> buoyage system (includes UK), the red lateral marks should be kept to port (port hand marks) and green lateral marks should be kept to indicate starboard (starboard hand marks) when entering harbour or as marked on a chart</p>  |  |
| 2. | <p><b>Isolated Danger Marks</b> – typically mark hazards such as underwater rocks or shoals, indicating it is a danger but there is safe water around it and the hazard is not spread over a large area; they are coloured with horizontal black and red stripes with a white flashing light (2 quick flashes with 5 second intervals) and topmarks of 2 black balls in a vertical line</p>  |  |
| 3. | <p><b>Safe Water Marks</b> – may be used mid-channel, as a centreline or at the point where land is reached; they indicate the presence of safe, navigable water all around the buoy and may be used to indicate the best point of passage under a fixed bridge. They are red and white vertically striped beacons or buoys with a white flashing light (slow rhythm); if a topmark is carried, it is a single red sphere</p>  |  |
| 4. | <p><b>Emergency Wreck Marking Buoys</b> – are designed to provide high visual and radio aid to navigation recognition; they are placed as close to the wreck as possible, or in a pattern around the wreck, and within any other marks that may be subsequently deployed. They are coloured in equal numbers and dimensions of blue and yellow vertical stripes, fitted with alternating blue and yellow flashing lights; if a topmark is carried, it is an upright yellow cross</p> |  |
| 5. | <p><b>Special Marks</b> – are not primarily used to assist in navigation, but they indicate special areas or features such as recreation zones, marking out cables and pipelines or are used as traffic separators; whilst there are many different shapes, they are always yellow in colour and often have a 'sideways' cross (looks like the letter 'X') as a topmark; if lit, it will be a yellow flashing light</p>  |  |

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|   |   |
|---|---|
| <p>6.</p>   | <p><b>Cardinal Marks</b> – are a type of buoy used in conjunction with the compass to indicate the direction from the mark in which the deepest navigable water lies; it draws attention to a bend, junction, fork or obstruction in a channel, or to mark the end of a shoal. They are coloured yellow and black, have topmarks have white flashing lights.</p> <p>A north cardinal mark will stand north of the obstruction indicating that a vessel can pass safely to the north of the mark. The east, south and west marks are placed in their respective positions around the obstruction</p> |
|    | <p><b>NORTH</b></p> <p>Both topmark arrows point upwards (north) and the black stripe is at the top</p>   |
|   | <p><b>EAST</b></p> <p>Topmarks point up and down and the black stripe is top and bottom. The topmark has the shape of an egg – E is for egg – E for East</p>  |
|  | <p><b>SOUTH</b></p> <p>Both topmarks point downwards (south) and the black stripe is at the bottom</p>  |
|  | <p><b>WEST</b></p> <p>Here the topmarks point up and down and the black stripe is in the middle, as the topmarks pointing together some say they look like a 'wasp-waist' – W is for West</p>   |

17. **Beacons** – are structures that are permanently fixed either to land or to the sea bottom and include radar reflectors, sonic and visual signals. Visual beacons range from small single-pile structures to large lighthouses. Lighted beacons are called lights, unlighted beacons are called day beacons.

### SOUND SIGNALS

18. There are four devices for sound signalling:

- Compressed-air / aerosol foghorn – vessels under 12m
- Whistle/siren – for vessels 12m or more
- Bell – for vessels 20m or more
- Gong – for vessels of 100m or more

Sound signals may also be supplemented with light signals.



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19. The rules also permit any light or sound signal that cannot be mistaken for an authorised signal or aid to navigation to attract the attention of another vessel.
20. The correct ways of signalling with a horn on inland and coastal waters are as follows:

|   |   |
|---|---|
| <b>One short blast</b>                            | <i>'I am turning starboard side and will leave you to port side'</i>  |
| <b>Two short blasts</b>                           | <i>'I am turning port side and will leave you to starboard side'</i>  |
| <b>Three short blasts</b>                         | <i>'I am reversing my engines'</i>  |
| <b>One long blast</b>                             | <i>'I am now getting underway'</i>  |
| <b>One long blast followed by one short blast</b> | <i>'Open the drawbridge please'</i>   |
| <b>Five short blasts</b>                          | <i>'Danger, please move out of the way'</i> <b>OR</b><br><i>'Don't do what your signal indicates you are about to do'</i> |

21. If the recipient vessel has understood the sound blast message, then they should repeat it to confirm. If they do not, then they either did not hear correctly or do not understand horn signalling. If the response is five short blasts, then this means the original intended action is dangerous.
22. A **short** blast is a sound for one second. A **long** blast is for four to six seconds.

### SOUND SIGNALS in reduced visibility / fog

23. A fog signal with a deep bass tone will be from a large vessel; a higher pitched tone is likely to be from a vessel of less than 20 metres.

For vessels underway (including those vessels which are drifting), the following applies:

| <b>vessel type</b>   | <b>signal</b>                                 |
|--|---|
| Under power  | One long blast every two minutes.             |
| Not at anchor or moored to the shore, but not making way = drifting      | Two long blasts every two minutes             |
| Power driven vessel (stopped)  | Two long blasts every two minutes             |
| Any vessel under sail, fishing, towing or generally hampered in some way | One long blast followed by two short blasts   |
| Vessel being towed (or the last vessel in a string)                      | One long blast followed by three short blasts |

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Vessels at anchor and aground do not use the horn; they sound bells and gongs:

| <b>vessel type</b>           | <b>signal</b>   |
|------------------------------|---|
| Vessels under 100m at anchor | Ring a bell for five seconds at least every minute  |
| Vessels under 100m aground   | Three single strikes, rapid ringing for five seconds, three single strikes  |
| Vessels over 100m at anchor  | Ring the bell for five seconds at the bow end followed by beating gong for five seconds at the stern  |
| Vessels over 100m aground    | Three single strikes, rapid ringing for five seconds, three single strikes at the bow end<br>Three single strikes, beating the gong for five seconds, three single strikes at the stern |

All Stations must have identification information on display for all local buoys and other signals.