

# LIFEBOAT SURVIVAL MANUAL

## PREFACE

This manual complies in all respects with the content requirement of IMO Assembly Resolution A.657(16) Annex 2. The manual is acceptable for the purposes of:

1. Paragraph 7.1.4, Part 1, Schedule 1 of the Merchant Shipping (Life-Saving Appliances) Regulations 1986
2. Paragraphs 8.1 (in part), Part 1, Schedule 1 and Paragraph 3 (in part) Part 1, Schedule 1 of the Merchant Shipping (Life-Saving Appliances for Passenger Ships of Classes III to VI(A)) Regulations 1992
3. Regulation 41.8.4 of the revision of Chapter III of the 1983 amendments to the International Convention of the Safety of Life at Sea 1974

The Marine Safety Agency has no objection to the carriage of the manual in addition to any other equipment required by:-

1. The Merchant Shipping (Life-Saving Appliances) Regulations 1980 as amended
2. The Fishing Vessel (Safety Provision) Rules 1975 as amended

Additional instructions for action in survival craft is contained in Merchant Shipping Notice  
M1419

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# 1.0 PROTECTION AGAINST EXPOSURE

It is vital in any survival situation that personnel are protected against exposure to cold AND heat.

The exposure cover must be rigged as soon as possible to provide protection against wind, water (sea and rain) and the sun.

If people have been immersed in water prior to boarding the lifeboat, they should take off their clothes, wring them out and put them back on. Survivors should huddle together for warmth and mutual support. Each person radiates heat, and warmth is vital to your well-being. If a person is suffering from the effects of the cold, then that person must be put in a thermal protective aid in order that his/her core body temperature will not fall to a dangerous level.

In tropical climates it is equally necessary to provide against exposure to the sun. Such exposure can lead to an increased consumption of water through sweating and can lead to problems of sunburn and sunstroke. Ensure the exposure cover provides some shade, although the sides can be rolled up for ventilation purposes.

## 2.0 ANTI-SEASICKNESS TABLETS

Anti-seasickness tablets **MUST** be issued to all survivors onboard the lifeboat as soon as possible.

Seasickness is incapacitating, reducing the level of vital warm fluids in the body. It destroys the will to live. To carry out the survival procedures in this manual you will need to be fit and mentally alert.

Remember - even the best sailors have been seasick in lifeboats.

# 3.0 WATCHES, LOOKOUTS, ETC.

- .1 The person in charge of the lifeboat must collect all sharp objects that may damage the exposure cover or be considered as potential weapons.
- .2 Conduct a roll-call to muster survivors.
- .3 Establish a routine and allocate duties to survivors -
  - rations and water
  - lookouts
  - bilge pump
  - engine maintenance
  - cleaning

Be aware of the need to avoid unnecessary exertion.

- .4 Watches should be taken in pairs for a maximum of one hour, with one person outside the exposure cover and one person inside the exposure cover.

Duties - Outside - lookout for searching ships and aircraft, other survival craft and survivors in the water.

- gather useful floating objects.

Duties - Inside - maintain the boat, check sea anchor (line not chafing), supervise boat management whilst the boat leader rests.

- attend to injured persons.

- look after equipment etc.

In cold climate ensure that lookouts are changed frequently to avoid exposure.

# 4.0 FIRST AID, HEALTH PROBLEMS, SANITARY ARRANGEMENTS

Administer first aid to the injured as soon as possible.  
The priorities are:

- a) Is the airway clear - is the patient breathing? Is the heart beating?
- b) Is there any serious bleeding?
- c) Is the casualty conscious?

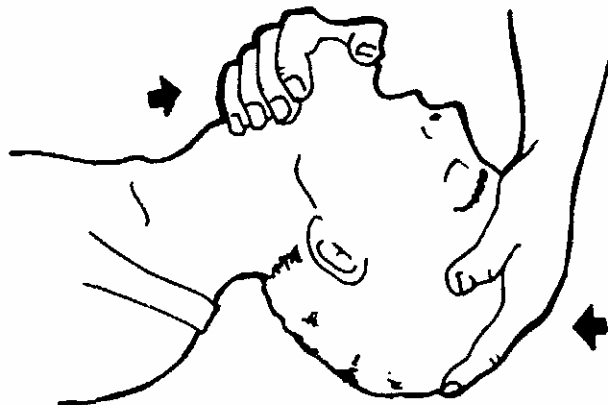
.1 The first action must be to ensure that the airway is clear i.e. the patient is able to breathe. Prevent obstructed breathing by extending the neck and removing dentures, debris, blood or vomit. If the patient is not breathing, commence artificial respiration AT ONCE! Mouth to mouth or mouth to nose is the most suitable.

SECONDS COUNT!

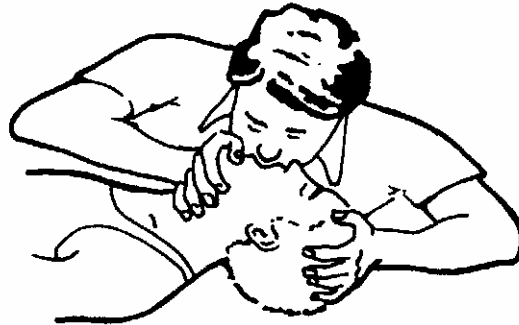
## MOUTH TO MOUTH METHOD

Work from the side of the casualty.

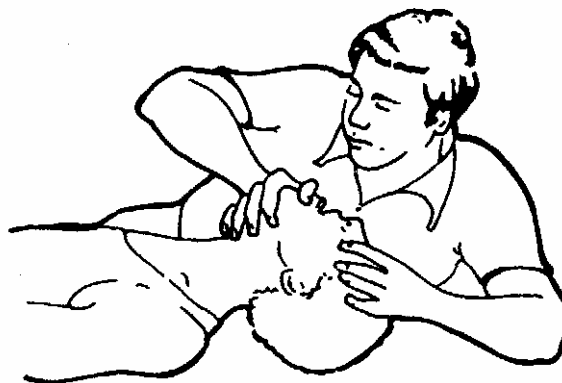
- a) Lay casualty on his back.
- b) Loosen clothing, particularly around the neck.
- c) To open airway, hold the head in both hands, one hand pressing the head backwards and the other pushing the lower jaw upwards and forwards.



- d) Seal the nostrils with your cheek or by pinching the nostrils.
- e) Take a deep breath, open your mouth wide, seal your lips around the victims mouth.



- f) Blow directly into their lungs and watch for the chest to rise, then remove your mouth.
- g) Watch chest fall while taking next breath.



- h) Repeat process. The first six inflations being given as quickly as possible and thereafter at ten per minute.
- i) Continue until casualty starts to breathe on their own or for at least 30 minutes if medical advice is not available.
- j) If the mouth is too badly injured for mouth to mouth, use the mouth to nose method.

It can often happen that as soon as the airway is clear and the lungs inflated, the casualty will gasp and start to breathe spontaneously.

If, or when, the patient is breathing, place in the coma or recovery position until fully recovered.

## MOUTH TO NOSE METHOD

This is similar to the mouth to mouth method.

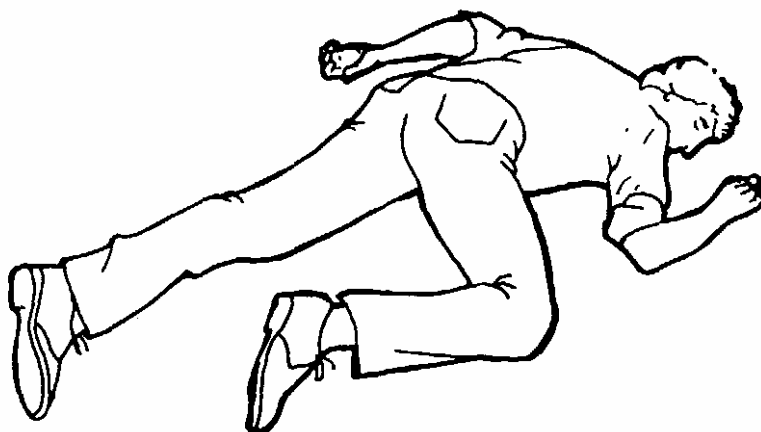
Work from the side of the casualty with the head extended. Open your mouth wide, take deep breath and seal your lips widely on the casualty's face around the nose. Make sure your lips do not obstruct their nostrils. Close the mouth by placing your thumb on the lower lip.



If the head is not sufficiently extended, the soft palate will allow inflation through the nose but may prevent expiration. If this happens, part the casualty's lips with your thumb after each inflation.

- .2 Bleeding can be controlled by pressure over the site of the bleeding. Any pressure will be suitable, even a hand, but dressing or cloth is desirable. If a limb is involved, elevation will help to control the bleeding. If blood continues to soak the dressing, do not remove the dressing, but place a further pad on top. A tourniquet **MUST NOT** be used under any circumstances.
- .3 An unconscious casualty should be looked after in the coma or recovery position. Never leave a casualty unattended and check frequently for any change in condition.

### SAFEST POSITION FOR AN UNCONSCIOUS PERSON (COMA OR RECOVERY POSITION)





- .4 The first aid pack contains dressings, bandages and burn/wound creams. Instructions and guidance for the treatment of survivors included.

Relief from pain may be obtained by the use of the painkillers included in the first aid kit.

Guidance for the treatment of burns, wounds, and fractures is given in the first aid kit. The basic treatments are:

### **BURNS**

Do not burst blisters because this will result into a loss of body fluid and increase the risk of infection. It is necessary to exclude air from open burns, therefore apply burn cream, place gauze over that and bandage to hold the gauze in position. Check dressings frequently.

### **WOUNDS**

Apply antiseptic cream and cover with a dressing. Keep wounds clean, should wounds become septic change dressings frequently and keep clear of pus.

### **FRACTURES**

Keep the casualty as still as possible and in the most comfortable position that can be found. Fit survivors may be used as "chocks" to prevent movement. For a broken arm or shoulder the limb should be strapped to the chest. For a broken leg, manufacture a splint by any available means and strap the broken limb to the sound leg.

Keep all casualties **WARM AND RESTED**.

## **.5 HEALTH PROBLEMS**

The major health problems encountered by survivors are those caused by the cold.

### **HYPOTHERMIA**

Remove all wet clothing, wring out the excess water and replace clothing. Put extra clothing or dry clothing on a casualty if available. Place the casualty in a thermal protective aid. If necessary put someone else in with the casualty to assist warming by transfer body heat.

**DO NOT MASSAGE** in an attempt to warm the casualty – you may damage the skin and cause future problems.

## **FROSTBITE**

Occurs if skin is exposed to cold wind. Face, ears and hands are the areas most usually affected.

It can be avoided by:

- a) Reducing the time that lookouts are exposed to the weather.
- b) Wriggling the nose, cheeks, toes, fingers etc. to help blood circulation.
- c) Keep the face, ears, hands, as well as the rest of your body, covered.

Should any part of the skin feel stiff, it must be checked.

Watch for tell-tale signs. The frozen area become hard, white, still and numb.

### **Treatment:-**

The most effective treatment is to warm the frozen areas –

- a) If the face or ears are affected, place the palm of the hand over the frozen area.
- b) If the hands are affected, tuck them under the arms or between the legs.

### **DO NOT MASSAGE.**

## **IMMERSION FOOT**

This can occur if the feet become chilled and wet (although wetting is not essential) causing poor circulation. It appears as swelling, numbness, discoloration and ulceration. Immersion foot can occur very quickly in arctic waters.

It can be avoided by:

- a) Keeping feet as warm and dry as possible.
- b) Exercising feet at frequent intervals.
- c) Untying shoe laces so that blood circulation is not restricted, but keep shoes on.

### **Treatment:**

- a) Wrap feet in spare dry clothing.
- b) Elevate feet.

### **DO NOT MASSAGE**

## **URINE RETENTION**

All persons on board the lifeboat should urinate within the first two or three hours after boarding. Failure to do so may result in involuntary urine retention. This is a very painful and distressing condition and must be avoided.

Do not be unduly concerned if urine changes color and becomes darker. This will occur because of a very much reduced intake of water with the result that urine is more concentrated than usual. It is a perfectly normal reaction to the reduction in water intake and is to be expected.

- .6 Proper sanitary arrangements are vital for the morale of survivors, particularly where women and children are involved. Rig toilet facilities in the bow of the lifeboat for males and females, using whatever material may be at hand e.g. the boat cover and oars.

# 5.0 LOCATION AIDS INCLUDING RADIO EQUIPMENT

There are a number of location aids available to the survivor, to assist detection by searching ships and aircraft.

- .1 **The boat and exposure cover** – the inside of the lifeboat and the exposure cover are colored international orange to aid location.
- .2 **Pyrotechnic signals**
  - a) The **parachute red rocket** is used to attract the attention of ships when they are at a distance. The rocket is fired into the air and a red flare floats down on the end of a parachute. The flare will burn for not less than 40 seconds.
  - b) The **hand flare** is used to attract the attention of ships or aircraft at night. The flare is held up into the air in the direction of the ship or aircraft and well clear of the lifeboat. The flare will burn for not less than one minute.
  - c) **Buoyant orange smoke signals**, giving off orange smoke for at least three minutes, are especially useful for attracting the attention of passing ships and aircraft during the hours of daylight. After activation throw overboard to leeward – ensure that smoke signals are not operated within the confines of the lifeboat when the exposure cover is rigged.
- .3 **Heliographs** – these are used to attract the attention of ships or aircraft by reflecting the sun's rays in the direction of the ship or aircraft.

## Instructions for use of Heliograph Mirror

- a) Hold the foresight in the left hand in line with the target about 6 inches in front of the eye.
  - b) Place the back of the mirror immediately in front of the eye with the right hand and align the two holes on the target.
  - c) Rock the mirror until the scribed circles on the foresight and the black spot centralize on the foresight hole: the beam is then directed onto the target.
  - d) The beam need not be rocked deliberately as the hand does this inadvertently.
- .4 A **signaling torch** is provided in the lifeboat together with spare batteries and a spare bulb.

- .5 The **emergency lifeboat radio** is used to contact a ship or shore station on the emergency frequencies allocated in either shortwave or medium wave bands. For morse key transmission these are 500MHz or 8364 KHz and for voice transmission 2182 KHz.  
Full instructions are contained on the lid of the radio.
- .6 **Survival Craft Emergency Position Indicating Radio Beacons** transmit on the aircraft distress frequencies of 121.5 MHz and 243 MHz. Float-free satellite **EPIRB's** transmit on the frequency of 406 MHz and send a coded message. Instructions for use vary but will be found printed clearly on the front of the **EPIRB**.
- .7 **The search and Rescue Radar Transponder** will give a visual indication on a searching vessels radar when activated and when interrogated by a radar. Instructions for use will vary but will be found printed on the unit.

# 6.0 PROPER USE OF SURVIVAL EQUIPMENT INCLUDING DISTRIBUTION OF RATIONS AND WATER

## .1 SEA ANCHORS

The purpose of a lifeboat, rescue boat, or inflated boat sea anchor is twofold i.e. to hold the boat in a position where it is heading into the wind and sea, and to reduce wind induced drift. By keeping the boat head to wind and sea, the boat will be on the most comfortable heading and the risk of being swamped will be reduced.

In the case of abandonment, a reduction in drift will make the task of the search and rescue operation easier because the boat will remain as close as possible to the abandon ship position.

Following and abandonment, and after a lifeboat or rescue boat has cleared the distressed ship, the sea anchor should be streamed (except in flat calm conditions when it will be unable to perform any useful function). The sea anchor can also be used by a rescue or inflated boat, if it is necessary to heave-to, or in the event of engine failure.

The ends of the hawser (and tripping line where fitted) should be secured in the boat, the hawser passed through the fairlead in the bow and the sea anchor paid out with sufficient slack in the tripping line to ensure that the open end of the sea anchor is facing the boat. In adverse conditions the hawser should be paid out under control e.g. by taking a turn round a suitable secure point.

In an enclosed boat when streaming the anchor it will be necessary to open the forward hatch. The sea anchor should be secured outside of the hatch in order that the hatch may be closed if required.

## .2 STORM OIL

In an open lifeboat where the effects of breaking seas are a cause for concern the oil bag should be used. It can be secured to the bridle of the sea anchor, or at or near the end of the hawser. Preferably the oil bag should be rigged on an endless whip arrangement, so that it can be replenished and/or its position adjusted without having to heave in the sea anchor.

To make an endless whip the buoyant heaving lines may be used. Run the line through the eye at the end of the hawser or through a grommet made from any suitable cordage.

In an open lifeboat the rudder and tiller should be unshipped when using the sea anchor and the steering oar rigged to assist in keeping the lifeboat head to wind and sea.

During prolonged use of the sea anchor the hawser should be protected from chafe by wrapping something suitable around it, where it passes through the fairlead or by slacking it down periodically to expose a fresh part of the hawser to the fairlead.

In an open lifeboat in extreme sea conditions, if the sea anchor is occasionally preventing the bow of the lifeboat lifting with the waves and thereby exposing the lifeboat to the risk of swamping, the tripping line, if fitted, should be tended and the sea anchor tripped as required.

### .3 **THERMAL PROTECTIVE AIDS**

Thermal Protective Aids are designed to prevent body heat loss by maintaining a layer of warm air around the body. This is achieved in part by means of a lining that reflects radiated body heat. The Thermal Protective Aid is therefore a valuable asset in the prevention of hypothermia.

Donning instructions are clearly printed on the packaging of each Thermal Protective Aid. A Thermal Protective Aid should be donned over a lifejacket.

### .4 **IMMERSION SUITS**

Immersion suits are protective suits designed to reduce body heat loss in cold water.

### .5 **FOOD AND WATER RATIONS**

The lifeboat is provided with rations containing a **MINIMUM** of 3 liters of freshwater and 10,000 kilojoules (1/2 kilo) of vitaminised food for each person that the lifeboat is certified to carry.

No food or water should be distributed in the first 24 hours **EXCEPT** that injured people may be given water if they are unconscious.

Thereafter rations must be distributed three times daily:

**Sunrise      -      Midday      -      Sunset**

**AND AT NO OTHER TIMES** except in the case of injured people.

It is especially important to ensure that water rations are distributed fairly and therefore the graduated drinking vessels provided should be used.

Water rations **MUST** be supplemented by rain water at every opportunity.

The intake per person, except for injured persons should be ½ liter per day, which is the minimum amount of water the resting human body requires to survive.

Food rations should be distributed fairly and so as to last as long as possible. The human body can survive for weeks without food provided it has an adequate supply of fresh water.

A fishing kit is provided, but if fish or sea birds are caught **DO NOT** eat unless there is plentiful supply of fresh water. This is because of the high protein content in fish or sea birds which requires fresh water to help the digestion process.

**DO NOT DRINK SEA WATER**

**DO NOT DRINK URINE**



# 7.0 PREPARATION FOR HEAVY WEATHER

If notice is taken of the weather, then survivors in a lifeboat can be caught unaware with disastrous results.

- a) Ensure all survivors wear lifejackets.
- b) Rig sea anchor.
- c) Slow and lash down all loose equipment.
- d) Ensure all injured persons are made as comfortable as possible.
- e) In open boats have oil bag ready for use, together with spare storm oil.
- f) In open boats ensure exposure cover is properly rigged and correctly lashed.
- g) Two people to be in attendance at the bow for the sea anchor or tripping line (if fitted).
- h) Helmsman delegated.
- i) In an open boat rig the steering oar. The rudder and tiller should be lashed and secure, or unshipped and stowed in the boat.
- j) All persons are informed and know what is expected of them.

# 8.0 RESCUE SERVICES, LANDING AND BEACHING

## .1 PREPARATION FOR ARRIVAL OF RESCUE SERVICES

Group all survival craft together to make a bigger target for the rescue services.

Should an aircraft or ship be sighted, ensure that survival routines are maintained right up until the moment of rescue. The rescue craft may have other priorities.

Signal the ship or aircraft and continue this until the rescue unit has clearly indicated that the signals have been received.

Take a roll-call of all persons, with notes of injuries sustained and treatment given.

If aerials or masts have been rigged, these should be taken down, particularly if helicopters are operating.

## .2 TOWING

Prior to being taken in tow, ensure that the area where the towline will be secured to the boat and that the towline can run free. Should a towline be passed from another boat, secure the line to a fitting in the boat e.g. the lifting hook.

## .3 HELICOPTERS

In the event of rescue by helicopter, follow all the instructions given by the helicopter crew. DO NOT TOUCH THE WIRE from the helicopter until the pilot has earthed it by dragging through the water. If a crew member is lowered down to the lifeboat follow ALL his instructions. DO NOT under any circumstances secure a wire or line from a helicopter.

## .4 LANDING AND BEACHING

Care must be exercised in approaching the land particularly where a swell or surf may be running or approaching a lee shore.

Avoid rocky areas whenever possible. A gently shelving beach is preferable, although where a swell is running, breaking waves may extend well out to seaward of the beach.

The rudder should be unshipped and the steering oar rigged. The boat should be maneuvered with the oars as an engine will be of little use in an area of broken water.

The beach is approached stern first i.e. the boat heading out to sea, meeting the advancing waves head on. The crew will have to back water to row the boat shorewards.

When the boat grounds, the steering oar is unshipped and the stroke oarsmen ordered out of the boat to hold the boat as best they can, whilst the remaining oarsmen keep backing water so that the boat is kept bows-on to the waves.

Personnel, stores and useful survival equipment can be disembarked over the stern with the oarsmen disembarking last of all, in pairs, starting from aft.

When a heavy swell is running, the boat is in great danger of broaching-to when beaching and therefore it may be more prudent, if possible, to wait until the swell subsides.

## 9.0 MAINTENANCE OF MORALE

High morale and the will to live are vital if a person is to survive after abandonment into lifeboats.

Firm but understanding discipline is important on the part of the person in charge of a lifeboat, together with the maintenance of a well established routine.

Competitions, songs and jokes are all important in keeping survivors cheerful, which is vital to morale.

Fear may be compounded by lack of knowledge. Have confidence in the lifeboat, in its equipment, your own abilities, and in the chances of rescue which have never been better.

**REMEMBER, NO ONE IS A SURVIVOR  
UNTIL THEY HAVE BEEN RESCUED.**

# APPENDIX

## LIFE BOAT EQUIPMENT \*

- \* This list refers to totally and partially enclosed lifeboats provided on ships where keel were laid on after 1.7.86.
1. Sufficient buoyant oars to make headway in a calm sea, with crutches or thole pins provided for each oar.
  2. Two boat hooks.
  3. One buoyant bailer and two buckets.
  4. One survival manual.
  5. One binnacle and compass.
  6. One sea anchor.
  7. Two painters.
  8. Two hatchets.
  9. Watertight containers providing 3 liters of fresh water per person.
  10. Three rustproof graduated drinking vessels.
  11. Food rations totaling not less than 10,000 kilojoules per person (1/2 kilo) stowed in watertight containers.
  12. Four parachute red rockets.
  13. six hand red flares.
  14. Two buoyant orange smoke signals.
  15. One signaling torch with spare batteries and bulb.
  16. One daylight signaling mirror.
  17. One Rescue Signals Table.
  18. One whistle.
  19. One first aid kit.
  20. Six doses of anti-seasickness medicine and one vomit bag per person.

21. One jack-knife.
22. Three tin openers.
23. Two buoyant rescue quoits c/w 30m of buoyant line.
24. One manual bilge pump.
25. One set fishing tackle.
26. Engine tools.
27. Two portable fire extinguishers for oil fires.
28. One searchlight.
29. One radar reflector.
30. Thermal protective aids for 10% of the capacity of the boat. The minimum requirement is for two.

# IMMEDIATE ACTIONS TO BE TAKEN

1. Clear away from the ship.
2. Look for and pick up survivors.
3. Marshal liferafts and other survival craft.
4. Secure survival craft together – distribute personnel and equipment as necessary.
5. Stream sea anchor.
6. In an open boat rig the exposure cover.
7. Ensure that everyone in the boat is as dry and warm as possible.
8. Ensure all loose gear is secured in the boat when not required for use e.g. oars, axes, etc.
9. Read the SURVIVAL MANUAL kept in the small gear locker.
10. As soon as possible check the boat gear and survival equipment. Make sure Distress Signals are retained in good condition and kept ready to hand.

