

Chapter 8

LIFE-SAVING APPLIANCES AND ARRANGEMENTS

Muster station should be construed as assembly station for passengers and rescue boat should be construed as rescue/fast rescue boat.

8.1 General and definitions

8.1.1 Life-saving appliances and arrangements should enable abandonment of the craft in accordance with the requirements of 4.7 and 4.8.

8.1.2 Except where otherwise provided in this Code, the life-saving appliances and arrangements required by this chapter should meet the detailed specifications set out in part C of chapter III of the Convention and be approved by the Administration.

In accordance with the MCA LSA Instructions to Surveyors Volume 2

8.1.3 Before giving approval to life-saving appliances and arrangements, the Administration should ensure that such life-saving appliances and arrangements:

- .1 are tested to confirm that they comply with the requirements of this chapter, in accordance with the recommendations of the Organisation [See footnote 17]; or

IMO Resolution A 689(17) as amended and the MCA LSA Instructions to Surveyors Volume 2

- .2 have successfully undergone, to the satisfaction of the Administration, tests which are substantially equivalent to those specified in those recommendations.

IMO Resolution A 689(17) as amended and the MCA LSA Instructions to Surveyors Volume 2

8.1.4 Before giving approval to novel life-saving appliances or arrangements, the Administration should ensure that such appliances or arrangements:

IMO Resolution A 520(13)

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- .1 provide safety standards at least equivalent to the requirements of this chapter and have been evaluated and tested in accordance with the recommendations of the Organisation; or

IMO Resolution A 689(17) as amended and the MCA LSA Instructions to Surveyors Volume 2

- .2 have successfully undergone, to the satisfaction of the Administration, evaluation and tests which are substantially equivalent to those recommendations.

IMO Resolution A 689(17) as amended and the MCA LSA Instructions to Surveyors Volume 2

8.1.5 Before accepting life-saving appliances and arrangements that have not been previously approved by the Administration, the Administration should be satisfied that life-saving appliances and arrangements comply with the requirements of this chapter.

IMO Resolution A 689(17) as amended and the MCA LSA Instructions to Surveyors Volume 2

8.1.6 Except where otherwise provided in this Code, life-saving appliances required by this chapter for which detailed specifications are not included in part C of chapter III of the Convention should be to the satisfaction of the Administration.

Note that Chapter III now is carriage requirements. Equipment specification will be in LSA Code. IMO Resolution A 689(17) as amended and the MCA LSA Instructions to Surveyors Volume 2

8.1.7 The Administration should require life-saving appliances to be subjected to such production tests as are necessary to ensure that the life-saving appliances are manufactured to the same standard as the approved prototype.

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8.1.8 Procedures adopted by the Administration for approval should also include the conditions whereby approval would continue or would be withdrawn

IMO Resolution A 689(17) as amended and the MCA LSA Instructions to Surveyors Volume 2

8.1.9 The Administration should determine the period of acceptability of life-saving appliances which are subject to deterioration with age. Such life-saving appliances should be marked with a means for determining their age or the date by which they should be replaced.

*MCA LSA Regs 86. Schedule 8 (Pyrotechnics)
Schedule 7 (Food, Water, First Aid Kits)
Schedule 9 Lifebuoy, Light & Submarines?
Schedule 10 Life Jacket, lights*

8.1.10 For the purposes of this chapter, unless expressly provided otherwise:

Anti-exposure suit is a protective suit designed for use by rescue boat crews and marine evacuation system parties per MSC 66/24/Add.1 Annex 2

.1 "Detection" is the determination of the location of survivors or survival craft.

Tested in accordance with IMO Resolution A.520(13), IMO Resolution A.689(17) as amended and MCA LSA Instructions to Surveyors. Volume 2.

.2 "Embarkation ladder" is the ladder provided at survival craft embarkation stations to permit safe access to survival craft after launching.

.3 "Embarkation station" is the place from which a survival craft is boarded. An embarkation station may also serve as a muster station, provided there is sufficient room, and the muster station activities can safely take place there.

.4 "Float-free launching" is that method of launching a survival craft whereby the craft is automatically released from a sinking craft and is ready for use.

IMO Resolution A 689(17) as amended and the MCA LSA Instructions to Surveyors Volume 2

.5 "Free-fall launching" is that method of launching a survival craft whereby the craft with its complement of persons and equipment on board is released and allowed to fall into the sea without any restraining apparatus.

.6 "Immersion suit" is a protective suit which reduces the body heat-loss of a person wearing it in cold water.

- .7 "Inflatable appliance" is an appliance which depends upon non-rigid, gas-filled chambers for buoyancy and which is normally kept uninflated until ready for use.
- .8 "Inflated appliance" is an appliance which depends upon non-rigid, gas-filled chambers for buoyancy and which is normally kept inflated and ready for use at all times.
- .9 "Launching appliance or arrangement" is a means of transferring a survival craft or rescue boat from its stowed position safely to the water.
- .10 "Marine evacuation system"(MES) is an appliance designed to rapidly transfer large number of persons from an embarkation station by means of a passage to a floating platform for subsequent embarkation into associated survival craft or directly into associated survival craft.
- .11 "Novel life-saving appliance or arrangement" is a life-saving appliance or arrangement which embodies new features not fully covered by the provisions of this chapter but which provides an equal or higher standard of safety.
- .12 "Rescue boat" is a boat designed to assist and rescue persons in distress and to marshal survival craft.

Currently HSC required to have rescue boat, however a fast rescue boat can be fitted in place of the rescue boat. Rescue boat shall not be less than 3.8m and not more than 8.5m in length. Fast rescue boats shall be not less than 6 metres in length and not more than 8.5 metres shall be capable of manoeuvring, for at least 4 hours, at a speed of at least 20 knots in clam water with a suitably qualified crew of 3 persons and at least 8 knots with a full complement of persons and equipment. Schedule 2 Part 10 MSN 1676(M). IMO Resolution A 689(17) as amended and the MCA LSA Instructions to Surveyors Volume 2

- .13 "Retrieval" is the safe recovery of survivors.
- .14 "Retro-reflective material" is a material which reflects in the opposite direction a beam of light directed on it.

Approved in accordance with A.659(16)

- .15 "Survival craft" is a craft capable of sustaining the lives of persons in distress from the time of abandoning the craft.
- .16 "Thermal protective aid" is a bag or suit of waterproof material with low thermal conductance.

8.2 Communications

8.2.1 Craft should be provided with the following radio life-saving appliances:

- .1 at least three two-way VHF radiotelephone apparatus should be provided on every passenger high speed craft and on every cargo high speed craft of 500 tons gross tonnage and upwards. Such apparatus should conform to performance standards not inferior to those adopted by the Organisation;
- .2 at least one radar transponder should be carried on each side of every passenger high speed craft and of every cargo high speed craft of 500 tons gross tonnage and upwards. Such radar transponders should conform to performance standards not inferior to those adopted by the Organisation [See footnote 20]. The radar transponders should be stowed in such locations that they can be rapidly placed in any one of the liferafts. Alternatively, one radar transponder should be stowed in each survival craft.

muster/ assembly

8.2.2 Craft should be provided with the following on-board communications and alarm systems:

- .1 an emergency means comprising either fixed or portable equipment or both for two-way communications between emergency control stations, muster and embarkation stations and strategic positions on board; and
- .2 a general emergency alarm system complying with the requirements of regulation III/50 of the Convention to be used for summoning passengers and crew to muster stations and to initiate the actions included in the muster list. The system should be supplemented by either a public address system or other suitable means of communication. The systems should be operable from the operating compartment.

III/50 - see LSA Code Ch. 7 Para 7.2

8.2.3 Signalling equipment

8.2.3.1 All craft should be provided with a portable daylight signalling lamp which is available for use in the operating compartment at all times and which is not dependent on the craft's main source of electrical power.

IMO Resolution A 689(17) as amended and the MCA LSA Instructions to Surveyors Volume 2.

8.2.3.2 Craft should be provided with not less than 12 rocket parachute flares, complying with the requirements of regulation III/35 of the Convention, stowed in or near the operating compartment.

IMO Resolution A 689(17) as amended and the MCA LSA Instructions to Surveyors Volume 2. III/35 - see LSA Code Ch. 3 Para 3.1

8.3 Personal life-saving appliances

8.3.1 Where passengers or crew have access to exposed decks under normal operating conditions, at least one lifebuoy on each side of the craft capable of quick release from the control compartment and from a position at or near where it is stowed, should be provided with a self-igniting light and a self-activating smoke signal. The positioning and securing arrangements of the self-activating smoke signal should be such that it cannot be released or activated solely by the accelerations produced by collisions or groundings.

Lifebuoy should not weigh less than 4.5kg to ensure that it will release the smoke signal when released remotely.

8.3.2 At least one lifebuoy should be provided adjacent to each normal exit from the craft and on each open deck to which passengers and crew have access, subject to a minimum of two being installed.

8.3.3 Lifebuoys fitted adjacent to each normal exit from the craft should be fitted with buoyant lines of at least 30 m in length.

8.3.4 Not less than half the total number of lifebuoys should be fitted with self-igniting lights. However, the lifebuoys provided with self-igniting lights should not include those provided with lines in accordance with 8.3.3.

8.3.5 A lifejacket complying with the requirements of regulation III/32.1 or III/32.2 of the Convention should be provided for every person on board the craft and, in addition:

Approved by the MCA or one of its Nominated Bodies in accordance with IMO Resolution A 689(17) as amended and the MCA LSA Instructions to Surveyors Volume 2

- .1 a number of lifejackets suitable for children equal to at least 10% of the number of passengers on board should be provided or such greater number as may be required to provide a lifejacket for each child;
- .2 every passenger craft should carry lifejackets for not less than 5% of the total number of persons on board. These lifejackets should be stowed in conspicuous places on deck or at muster stations;

- .3 a sufficient number of lifejackets should be carried for persons on watch and for use at remotely located survival craft and rescue boat stations; and
- .4 all lifejackets should be fitted with a light, which complies with the requirements of regulation III/32.3 of the Convention.

IMO Resolution A 689(17) as amended and the MCA LSA Instructions to Surveyors Volume 2

8.3.6 Lifejackets should be so placed as to be readily accessible and their positions should be clearly indicated.

8.3.7 An immersion suit, of an appropriate size, complying with the requirements of regulation III/33 of the Convention should be provided for every person assigned to crew the rescue boat.

/or anti exposure suit

IMO Resolution A 689(17) as amended and the MCA LSA Instructions to Surveyors Volume 2

8.3.8 An immersion suit or anti-exposure suit should be provided for each member of the crew assigned, in the muster list, to duties in an MES party for embarking passengers into survival craft. These immersion suits or anti-exposure suits need not be required if the craft is constantly engaged on voyages in warm climates where, in the opinion of the Administration, such suits are unnecessary.

MS LSA Regs 86, Reg 7(15)(a)(iii) between 20 ° north and 20 ° south.

8.4 Muster list, emergency instructions and manuals

muster/ assembly

8.4.1 Clear instructions to be followed in the event of an emergency should be provided for each person on board.

8.4.2 Muster lists complying with the requirements of regulation III/53 of the Convention should be exhibited in conspicuous places throughout the craft including the control compartment, engine-room and crew accommodation spaces.

8.4.3 Illustrations and instructions in appropriate languages should be posted in public spaces and be conspicuously displayed at muster stations, at other passenger spaces and near each seat to inform passengers of:

- .1 their muster station;

- .2 the essential actions they must take in an emergency;
- .3 the method of donning lifejackets.

8.4.4 Every passenger craft should have passenger muster stations:

- .1 in the vicinity of, and which provide ready access for all the passengers to, the embarkation stations unless in the same location; and
- .2 which have ample room for the marshalling and instruction of passengers.

8.4.5 A training manual complying with the requirements of 18.2.3 should be provided in each crew messroom and recreation room.

8.5 Operating instructions

8.5.1 Poster or signs should be provided on or in the vicinity of survival craft and their launching controls and should:

- .1 illustrate the purpose of controls and the procedures for operating the appliance and give relevant instructions and warnings;
- .2 be easily seen under emergency lighting conditions;
- .3 use symbols in accordance with the recommendations of the Organisation.

8.6 Survival craft stowage

8.6.1 Survival craft should be securely stowed outside and as close as possible to the passenger accommodation and embarkation stations. The stowage should be such that each survival craft can be safely launched in a simple manner and remain secured to the craft during and subsequent to the launching procedure. The length of the securing lines and the arrangements of the bowing lines should be such as to maintain the survival craft suitably positioned for embarkation. The Administrations may permit the use of adjustable securing and/or bowing lines at exits where more than one survival craft is used. The securing arrangements for all securing and bowing lines should be of sufficient strength to hold the survival craft in position during the evacuation process.

8.6.2 Survival craft should be so stowed as to permit release from their securing arrangements at or near to their stowage position on the craft and from a position at or near to the operating compartment.

8.6.3 So far as is practicable, survival craft should be distributed in such a manner that there is an equal capacity on both sides of the craft.

8.6.4 The launching procedure for inflatable liferafts should, where practicable, initiate inflation. Where it is not practicable to provide automatic inflation of liferafts (for example, when the liferafts are associated with an MES),

the arrangement should be such that the craft can be evacuated within the time specified in 4.8.1.

8.6.5 Survival craft should be capable of being launched and then boarded from the designated embarkation stations in all operational conditions and also in all conditions of flooding after receiving damage to the extent prescribed in chapter 2.

8.6.6 Survival craft launching stations should be in such positions as to ensure safe launching having particular regard to clearance from the propeller or waterjet and steeply overhanging portions of the hull.

8.6.7 During preparation and launching, the survival craft and the area of water into which it is to be launched should be adequately illuminated by the lighting supplied from the main and emergency sources of electrical power required by chapter 12.

8.6.8 Means should be available to prevent any discharge of water on to survival craft when launched.

8.6.9 Each survival craft should be stowed:

- .1 so that neither the survival craft nor its stowage arrangements will interfere with the operation of any other survival craft or rescue boat at any other launching station;
- .2 in a state of continuous readiness;
- .3 fully equipped; and
- .4 as far as practicable, in a secure and sheltered position and protected from damage by fire and explosion.

8.6.10 Every liferaft should be stowed with its painter permanently attached to the craft and with a float free arrangement complying with the requirements of regulation III/38.6 of the Convention so that, as far as practicable, the liferaft floats free and, if inflatable, inflates automatically should the high speed craft sink.

IMO Resolution A 689(17) as amended and the MCA LSA Instructions to Surveyors Volume 2

8.6.11 Rescue boats should be stowed:

rescue/ fast rescue boats

- .1 in a state of continuous readiness for launching in not more than 5 min;

- .2 in a position suitable for launching and recovery; and
- .3 so that neither the rescue boat nor its stowage arrangements will interfere with the operation of survival craft at any other launching station.

8.6.12 Rescue boats and survival craft should be secured and fastened to the deck so that they at least withstand the loads likely to arise due to a defined horizontal collision load for the actual craft, and the vertical design load at the stowage position.

8.7 Survival craft and rescue boat embarkation and recovery arrangements

~~muster/~~ assembly

8.7.1 Embarkation stations should be readily accessible from accommodation and work areas. If the designated muster stations are other than the passenger spaces, the muster stations should be readily accessible from the passenger spaces, and the embarkation stations should be readily accessible from the muster stations.

8.7.2 Evacuation routes, exits and embarkation points should comply with the requirements of 4.7.

8.7.3 Alleyways, stairways and exits giving access to the muster and embarkation stations should be adequately illuminated by lighting supplied from the main and emergency source of electrical power required by chapter 12.

8.7.4 Where davit-launched survival craft are not fitted, MES or equivalent means of evacuation should be provided in order to avoid persons entering the water to board survival craft. Such MES or equivalent means of evacuation should be so designed as to enable persons to board survival craft in all operational conditions and also in all conditions of flooding after receiving damage to the extent prescribed in chapter 2.

8.7.5 Subject to survival craft and rescue boat embarkation arrangements being effective within the environmental conditions in which the craft is permitted to operate and in all undamaged and prescribed damage conditions of trim and heel, where the freeboard between the intended embarkation position and the waterline is not more than 1.5 m, the Administration may accept a system where persons board liferafts directly.

rescue/ fast rescue boats

8.7.6 Rescue boat embarkation arrangements should be such that the rescue boat can be boarded and launched directly from the stowed position and recovered rapidly when loaded with its full complement of persons and equipment.

8.7.7 A safety knife should be provided at each MES embarkation station.

8.8 Line-throwing appliance

A line-throwing appliance complying with the requirements of regulation III/49 of the Convention should be provided.

IMO Resolution A 689(17) as amended and the MCA LSA Instructions to Surveyors Volume 2

8.9 Operational readiness, maintenance and inspections

8.9.1 Operational readiness

Before the craft leaves port and at all times during the voyage, all life-saving appliances should be in working order and ready for immediate use.

8.9.2 Maintenance

- .1 Instructions for on-board maintenance of life-saving appliances complying with the requirements of regulation III/52 of the Convention should be provided and maintenance should be carried out accordingly.

IMO Resolution A 689(17) as amended and the MCA LSA Instructions to Surveyors Volume 2

- .2 The Administration may accept, in lieu of the instructions required by .1, a shipboard planned maintenance programme which includes the requirements of regulation III/52 of the Convention.

8.9.3 Maintenance of falls

Falls used in launching should be turned end for end at intervals of not more than 30 months and be renewed when necessary due to deterioration of the falls or at intervals of not more than five years, whichever is the earlier.

8.9.4 Spares and repair equipment

Spares and repair equipment should be provided for life-saving appliances and their components which are subject to excessive wear or consumption and need to be replaced regularly.

8.9.5 Weekly inspection

The following tests and inspections should be carried out weekly:

- .1 all survival craft, rescue boats and launching appliances should be visually inspected to ensure that they are ready for use;

rescue/ fast rescue boats

- .2 all engines in rescue boats should be run ahead and astern for a total period of not less than 3 min provided the ambient temperature is above the minimum temperature required for starting the engine;
- .3 the general emergency alarm system should be tested.

8.9.6 Monthly inspections

Inspection of the life-saving appliances, including survival craft equipment should be carried out monthly using the checklist required by regulation III/52.1 of the Convention to ensure that they are complete and in good order. A report of the inspection should be entered in the log-book.

8.9.7 Servicing of inflatable liferafts, inflatable lifejackets, marine evacuation systems and inflatable rescue boats

Rescue/ fast rescue boats and all service stations are approved by the MCA and listed in MGN 62 (M+F) or subsequent

- .1 Every inflatable liferaft, inflatable lifejacket and MES should be serviced:
 - .1.1 at intervals not exceeding 12 months, provided where in any case this is impracticable, the Administration may extend this period by one month;

Application to be made to LSA Section HQ (SOLAS extension can be 5 months)

- .1.2 at an approved service station which is competent to service them, maintains proper servicing facilities and uses only properly trained personnel.*

All service stations are approved by the MCA and listed in MGN 62 (M+F) or subsequent

.2 Rotational deployment of marine evacuation systems

In addition to or in conjunction with the servicing intervals of marine evacuation systems required above, each marine evacuation system should be deployed from the craft on a rotational basis at intervals to be agreed by the Administration provided that each system is to be deployed at least once every six years.

(2000 HSC Code, paragraph 8.9.8)

* Refer to the Recommendations on conditions for the approval of servicing stations for inflatable liferafts, adopted by the Organization by resolution A.761(18), as amended by resolution MSC.55(66).

(2000 HSC Code, paragraph 8.9.7.1)

8.9.8 All repairs and maintenance of inflated rescue boats should be carried out in accordance with the manufacturer's instructions. Emergency repairs may be carried out on board the craft; however, permanent repairs should be effected at an approved servicing station.

rescue/fast rescue boats

All service stations are approved by the MCA and listed in MGN 62 (M+F) or subsequent

8.9.9 Periodic servicing of hydrostatic release units

Hydrostatic release units should be serviced:

rescue/fast rescue boats

All service stations are approved by the MCA and listed in MGN 62 (M+F) or subsequent

- .1 at intervals not exceeding 12 months, provided where in any case this is impracticable, the Administration may extend this period by one month;
- .2 at a servicing station which is competent to service them, maintains proper servicing facilities and uses only properly trained personnel.

8.9.10 Periodic servicing of launching appliances

Launching appliances:

- .1 should be serviced at recommended intervals in accordance with instructions for on-board maintenance as required by regulation III/36 of the Convention;
- .2 should be subjected to a thorough examination at intervals not exceeding 5 years; and
- .3 should upon completion of the examination in .2 be subjected to a dynamic test of the winch brake in accordance with paragraph 6.1.2.5.2 of the LSA Code i.e. with a proof load of not less than 1.1 times the maximum working load at maximum lowering speed.

(2000 HSC Code, paragraph 8.9.14)

8.9.11 Novel life-saving appliances or arrangements

- .1 Before giving approval to novel life-saving appliances or arrangements, the Administration should ensure that such appliances or arrangements:
 - .1.1 provide safety standards at least equivalent to the requirements of this chapter and have been evaluated and tested in accordance with the recommendations of the Organization;* or.
 - .1.2 have successfully undergone, to the satisfaction of the Administration, evaluation and tests which are substantially equivalent to those recommendations.
- .2 An Administration which approves new and novel inflatable liferaft arrangements pursuant to 8.9.1 may allow for extended servicing intervals under the following conditions:

* Refer to the Code of Practice for the Evaluation, Testing and Acceptance of Prototype Novel Life-Saving Appliances and Arrangements, adopted by the Organization by resolution A.520(13) (2000 HSC Code, chapter 8, paragraphs 8.1.4, 8.9.9 and 8.9.11)

- .2.1 The new and novel liferaft arrangement should maintain the same standard, as required by testing procedures, throughout the extended servicing intervals.
- .2.2 The liferaft system should be checked on board by certified personnel according to 8.9.7
- .2.3 Service at intervals not exceeding five years should be carried out in accordance with the recommendations of the Organization.
- .3 An Administration which permits extension of liferaft service intervals in accordance with 8.9.11.2 should notify the Organization in accordance with regulation I/5(b) of the Convention.

8.10 Survival craft and rescue boats

rescue/ fast rescue boats

8.10.1 All craft should carry:

Rescue boats and fast rescue boats are not included in these numbers as they are used for marshalling the liferafts and MOB.

- .1 survival craft with sufficient capacity as will accommodate not less than 100% of the total number of persons the craft is certified to carry, subject to a minimum of two such survival craft being carried;
- .2 In addition, survival craft with sufficient aggregate capacity to accommodate not less than 10% of the total number of persons the craft is certified to carry;

Evenly distributed on each side of the HSC.

- .3 in the event of any one survival craft being lost or rendered unserviceable, sufficient survival craft to accommodate the total number of persons the craft is certified to carry;
- .4 at least one rescue boat for retrieving persons from the water, but not less than one such boat on each side when the craft is certified to carry more than 450 passengers;
- .5 craft of less than 20 m in length may be exempted from carrying a rescue boat, provided the craft meets all of the following requirements:

~~20~~ 30m

rescue/ fast rescue boats

- .5.1 the craft is arranged to allow a helpless person to be recovered from the water;
 - .5.2 recovery of the helpless person can be observed from the navigating bridge; and
 - .5.3 the craft is sufficiently manoeuvrable to close and recover persons in the worst intended conditions.
- .6 notwithstanding provisions of .4 and .5 above, craft should carry sufficient rescue boats to ensure that, in providing for abandonment by the total number of persons the craft is certified to carry:
- .6.1 not more than nine of the liferafts provided in accordance with 8.10.1.1 are marshalled by each rescue boat; or
 - .6.2 if the Administration is satisfied that the rescue boats are capable of towing a pair of such liferafts simultaneously, not more than 12 of the liferafts provided in accordance with 8.10.1.1 are marshalled by each rescue boat; and
 - .6.3 the craft can be evacuated within the time specified in 4.8

8.10.2 Where the Administration considers it appropriate, in view of the sheltered nature of the voyages and the suitable climatic conditions of the intended area of operations, the Administration may permit the use of open reversible inflatable liferafts complying with annex 10 on category A craft as an alternative to liferafts complying with regulation III/39 or III/40 of the Convention.

*IMO Resolution A 689(17) as amended and the MCA LSA Instructions to Surveyors
Volume 2. III/39 and III/40 - See LSA Code Chapter IV, Para 4.2 or 4.3*