

CHAPTER 21

TRAINING AND MAINTENANCE MANUALS

21.1 General

21.1.1 Training Manuals and Instructions for On Board Maintenance are required to be carried on board ships under the Merchant Shipping (Life-Saving Appliances for Ships Other Than Ships of Classes III to VI(A)) Regulations 1999 and the Merchant Shipping (Life-Saving Appliances for Passenger Ships of Classes III to VI(A)) Regulations 1999. These Regulations apply the requirements of regulations III/51 and III/52 of the International Convention for the Safety of Life at Sea 1974, as amended 1998, to United Kingdom registered ships. Details regarding the content of training and maintenance manuals are given in Schedule 14 of MSN 1676(M).

21.1.2 Shipowners are responsible for compiling and providing the Training and Instructions for Maintenance of Life-Saving Appliances Manuals for their ships, and manufacturers of life-saving appliances are called upon to supply information and maintenance instructions for their products.

21.1.3 When examining manuals during surveys and inspections, surveyors should determine that instructions and information for the particular life-saving appliances on board are included in the manual.

21.1.4 Equipment which has been approved to the 1999 Regulations will be provided with instruction material by manufacturers. In the case of older equipment the material may not always be readily available and surveyors should take this into account when examining material which has been prepared by the owner or by the ship's staff when no information is available from the manufacturer. When evaluating such material, the prime consideration should be whether it fulfils the essential requirements for the particular item of equipment, i.e.; it indicates how the item can be effectively and safely maintained and used, rather than judging it against the specially prepared material provided with new equipment.

21.1.5 The arrangement of the contents of a training manual to be carried by a United Kingdom registered ship should preferably be as described at 21.2 and for on board maintenance instructions as at 21.3. Other arrangements may be accepted, in particular those found in foreign flag ships. In the case of a change of flag to the UK registry it will be necessary to have the material translated into English if it is provided in another language.

21.2 Training manuals

21.2.1 General, and provision of material

21.2.1.1 It is important that the contents of the manual should only include instructions and information relevant to the equipment and arrangements on the particular ship. Consequently if any of the items of equipment listed in Section 2 is not carried, information on that item should not be included in the manual.

21.2.1.2 In general it is expected that information and instructions on the use of equipment will be provided by manufacturers. Refer to Schedule 14, of MSN 1676 (M) which covers Training Manuals in the relevant Regulations, and specifically paragraphs 3.1, 3.3 and 3.5 inclusive; 3.8 to 3.10 inclusive; 3.12, 3.13, 3.15, and 3.16 (line-throwing appliance) inclusive; and 3.18, in each of those schedules, see paragraph 21.2.3 of these instructions for details.

21.2.1.3 For equipment examined under the 1999 Regulations, the approval will include examination by the MCA of material suitable for inclusion in a training manual. In many cases such material is also available for approved equipment of long standing.

21.2.1.4 Where equipment is no longer manufactured or is of foreign origin and has for example been accepted following a change of flag shipowners should use their best endeavours to provide suitable instructions and information.

21.2.1.5 As a minimum, manuals should also include (in addition to coverage under paragraph 21.2.1.2 above), the subject matter in paragraphs 3.2, 3.6, 3.7, and 3.17 respectively in the Schedule 14. Further, the subject matter referred to in paragraphs 3.14 and 3.16 is available in published form as described in paragraphs 21.2.4.3 and 21.2.4.11 of these instructions. Material on the use of sea anchors as noted in paragraph 3.11, of the Schedules, is at Appendix J.

21.2.1.6 In the section which deals with the use of survivor detection/location equipment there should be included a reference to the provision of retro-reflective material where it is fitted. Guidance on the fitting and maintenance of this material is contained in Appendix A.

21.2.1.7 It is recommended that in the interests of uniformity and to assist those compiling a manual that material for inclusion should use standard A4 paper (297 mm x 210 mm).

21.2.2 Arrangement of material

21.2.2.1 A foreword should be included to indicate the function of the manual and text should take a format similar to:-

(i) This Training Manual is provided to comply with the relevant provisions of the Merchant Shipping (Life-Saving Appliances for Ships Other Than Ships of Classes III to VI(A)) Regulations 1999 the Merchant Shipping (Life-Saving Appliances for Passenger Ships of Classes III to VI(A)) Regulations 1999 and the Merchant Shipping (Musters, Training and Decision Support System) Regulations 1999.

(ii) It is compiled to meet the requirements of Regulation 35 of Chapter III of the International Convention For The Safety Of Life At Sea, 1974, as amended 1996. On board maintenance instructions are provided to comply with Regulation 36 of III/3 of the same convention.

(iii) The purpose of this manual is to provide all members of the ship's company with instructions and information on the life-saving appliances provided on the ship, and on the best methods of survival.

21.2.2.2 The Training Manual may also be used as a framework and reference source for those personnel whose duty it is to give instructions to other members of the crew in the use of the ship's life-saving appliances and in survival at sea. In addition it is intended as a reference source for all members of the crew and a copy should be provided in each crew messroom and recreation room in order that there is ready access to the contents.

21.2.3 Content

The subject matter of a Training Manual is listed in the Schedule 14 of MSN 1676(M) applicable to the ship. In order that the information may be provided in a logical and uniform manner the contents should be listed using that list as a basis of text for the contents page in the training manual (see below). This will assist in identification of the subjects if the ship undergoes survey or "port state inspection" in a foreign port. Where a section or part of a section is provided in Audio-visual form, or as a separate document, this should be indicated in the contents page which should be similar to the following format;

Content Section No:	Subject	Reference in para 3 of each item in Schedule 14, Part 1 of MSN 1676 (M) referring to Training Manuals.
1.	Mustering and emergency instructions	.2 and .17
2.	Lifejackets	.1, .8, and .9

3.	Exposure, hazards and protection	.14
4.	Immersion suits and anti-exposure suits	.1, .8, and .9
5.	Thermal protective aids	.8 and .15
6.	Illumination in launching areas	.7
7.	Protection in launching areas	.6
8.	Lifeboats	.3, .4, .5, .8, .9, .11, .12, .13, .15, .18, .19, .20 and .21
9.	Rescue boats	.3, .4, .5, .8, .9, .11, .12, .13, .18, .19, .20 and .21
10.	Liferafts	.3, .4, .5, .8, .9, .11, .15, .18, .19, .20 and .21
11.	Radio equipment	.10
12.	Pyrotechnics	.9
13.	Lifebuoys, lights and smoke signals	.9
14.	Retrieval, including line-throwing appliance	.8, .16 and .21

Note: The item numbering in the Regulations matches that used in Safety of Life at Sea Convention 1974, as amended 1998 at Regulation III/35 - Training Manuals.

21.2.4 Content of sections

21.2.4.1 Section 1 Mustering and emergency instructions (Paragraphs 3.1; 3.8; and 3.9 of Schedule 14)

(i) Information is to be provided on mustering at the assigned stations and all other functions contained in the muster list and emergency instructions. The type and extent of the information in this section will depend on the type of ship e.g.: passenger or cargo ship, and whether or not detailed company instructions exist concerning onboard emergency organisation and procedures. The distribution of such instructions is usually at the company's or master's discretion, on a "need-to-know" basis.

(ii) The following information should be included in the training manual:
 (a) the general information taken from the ship's muster list, e.g. sound signals to be used during emergencies, their meanings and general action to be taken by the crew on hearing such signals,

(b) the location of muster lists posted up throughout the ship,

(c) where applicable, additional information on emergency procedures relating to fire fighting, and preparations for abandonment not included in the muster list (this is particularly relevant to passenger ships), or alternatively a cross reference to company instructions on such procedures,

(d) on passenger ships, the location of assembly stations, emergency equipment lockers, lifejacket stowage lockers, and plans of evacuation routes to assembly and embarkation stations,

(e) where applicable standing instructions on the operational control of watertight doors and procedures to be followed in an emergency situation.

21.2.4.2 Section 2 Lifejackets (Paragraphs 3.1; 3.8; and 3.9 of Schedule 14)

This section should include donning instructions and instructions on the care and maintenance of lifejackets.

21.2.4.3 Section 3 Exposure, hazards and protection (Paragraph 3.4 of Schedule 14)

This section should comprise as a minimum, the MCA's publication "Personal Survival At Sea" (see Merchant Shipping Notice No 1585) and the IMO Publication "A Pocket Guide To Cold Water Survival" 1992 Edition (IMO Sales No. IMO 946E).

21.2.4.4 Section 4 Immersion suits and anti-exposure suits (Paragraphs 3.1; 3.8 and 3.9 of Schedule 14)

This section should include donning instructions and instructions on the care and maintenance of immersion suits and anti-exposure suits. In the case of crews manning the rescue boats information should include the wearing of the immersion suit with a compatible lifejacket.

21.2.4.5 Section 5 Thermal protective aids (Paragraphs 3.8 and 3.15 of Schedule 14)

This section should include donning instructions and instructions on the care and maintenance of thermal protective aids.

21.2.4.6 Sections 6 and 7 Illumination and protection in launching areas (Paragraphs 3.6 and 3.7 of Schedule 14)

Information on illumination and devices for protection in the launching area is expected to be provided by the shipowner, or possibly in the case of new ships, by the shipbuilder. Such information may be in the form of plans showing the location of lights, switches, overboard discharges, stabiliser fins, shut-offs and controls or in the form of a list describing where each item and its control or switch is located and including any warnings about the operation of such controls and switches at drills or during an abandonment.

21.2.4.7 Sections 8, 9 and 10 Lifeboats, rescue boats and liferafts (Paragraphs 3.3; 3.4; 3.5; 3.8; 3.9; 3.11; 3.12; 3.13; 3.15; 3.18; 3.19; 3.20 and 3.21 of Schedule 14)

(i) These sections should contain, as appropriate, information and instructions on boarding, launching, operation of release gear, clearing and recovery, the use of survival and detection equipment, the use of sea anchors, engines and accessories, survival craft facilities and on emergency repair. Material on the use of sea anchors is at Appendix N. Information and instructions on the recovery of lifeboats and rescue boats should cover the following points:-

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|--------------------|---|
| (a) Action on ship | Positioning of painter, fall blocks, and recovery strops (if fitted). |
| (b) Action in boat | Approach to recovery position.
Preparation for picking up painter and attaching falls.
Securing painter.
Attaching falls (block or recovery strop) and securing of release gear if appropriate.
Signal to heave up. |
| (c) Action on ship | Heaving up - maximum permitted complement.
Disembarkation of occupants.
Transfer from recovery strop, if used.
Final heaving up and stowage. |

(ii) Where a ship is fitted with a rescue boat information should be given on launching, where necessary using painters, with the ship making headway at speeds up to 5 knots in calm water. Guidance may be taken from the Annex to Merchant Shipping Notice No M 1218 - Guidelines for Training Crews For the Purpose of Launching Lifeboats and Rescue Boats From Ships Making Headway Through the Water.

(iii) Information on the best use of survival craft facilities will usually be provided by the manufacturer.

(iv) Guidance may be taken from the IMO resolution A.657(16) which is published by the MCA as Merchant Shipping Notice No M.1419 - Instructions For Action In Survival Craft. The Liferaft Survival Instructions are in Annex 1 - Part A and B and the Outline For Lifeboat Survival Instructions or Manual in Annex 2.

(v) With reference to the requirement that details be provided on the use of "engine and accessories", in this context the word "accessories" means those items of machinery which are run from the engine, e.g.: the water spray pump, battery charger and starter re-charger if appropriate.

(vi) Where a vessel is fitted with an Marine Evacuation System (MES) the manufacturer's operational manual may be included in the form of a separate volume if it is not suitable for inclusion in the main Training Manual volume.

21.2.4.8 Section 11 Radio equipment (Paragraph 3.10 of Schedule 14)

Details should be given of the operation and use of the equipment fitted, viz;

- (i) Two-Way VHF Radiotelephone Sets
- (ii) Radar Transponders
- (iii) Radar Reflectors
- (iv) Portable Radio Equipment
- (v) Survival Craft EPIRBS
- (vi) Satellite EPIRBS

21.2.4.9 Section 12 Pyrotechnics (Paragraph 3.9 of Schedule 14)

Reference should be made to their use, precautions to be taken, care and maintenance, the expiry date and the proper means of disposal of time-expired units.

21.2.4.10 Section 13 Lifebuoys, lights and smoke signals (Paragraph 3.9 of Schedule 14)

Reference should be made to their use, precautions to be taken, care and maintenance, the expiry date as applicable and the proper means of disposal of time-expired units.

21.2.4.11 Section 14 Retrieval, including line-throwing appliances (Paragraphs 3.8, 3.16 and 3.21 of Schedule 14)

The information required for this section may be provided from the reproductions of relevant extracts from:

- (i) MCA Poster "SOLAS No 1" (this has replaced poster CG27) concerning retrieval by helicopter.

(ii) Admiralty Notices to Mariners No 4 from the Annual Summary concerning use of rocket rescue equipment (breeches buoy) - but note this is no longer used by HMCG. Use of the line-throwing apparatus. This Notice also includes useful information on retrieval by helicopter.

(iii) IMO Publication "Merchant Ship Search and Rescue Manual" (MERSAR) Fourth Edition. (IMO Document No 963.86.08E) concerning illustrations on helicopter rescue equipment.

Note:- The MCA has obtained permission from IMO and the Hydrographer of the Navy for shipowners to reproduce the extracts referred to at (ii) and (iii) above.

21.3 Instructions for on board maintenance

21.3.1 General

21.3.1.1 The instructions for on board maintenance of Life-Saving Appliances should be written in easily understood terms and illustrated wherever possible. Material originating from manufacturers may be used as a separate volume.

21.3.1.2 If these instructions are in the form of a separate manual it should also contain a "Foreword" explaining its function relative to the statutory requirements and usage similar to that of the training manual. See paragraphs 21.1.1 and 21.1.2 of these Instructions.

21.3.2 Contents

21.3.2.1 As appropriate the instructions should contain the following for each Life-Saving Appliance including release gears:-

- (i) a check list for use when carrying out the inspections required by the Life-Saving Appliances Regulations;
- (ii) maintenance and repair instructions;
- (iii) schedule for periodic maintenance;
- (iv) diagram of lubrication points with the recommended lubricants;
- (v) list of replaceable parts;
- (vi) list of sources of spare parts; and
- (vii) log for records of inspection and maintenance.