REPUBLIC OF THE UNION OF MYANMAR
MINISTRY OF TRANSPORT AND COMMUNICATIONS
DEPARTMENT OF MARINE ADMINISTRATION

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Date: 23rd July 2017

Directive (11/2017)

Lifeboats lowered by means of falls and Free-fall lifeboats

Applicable to: All Ship - owners, Ship Operators, Flag State Surveyors, Recognized Organizations, Masters and Officers of Myanmar Flagged Ships

References:

(a) SOLAS 1974 as amended
(b) IMO MSC. 1 /Circ. 1205
(c) IMO MSC. 1 /Circ. 1277
(d) IMO MSC. 1 /Circ. 1206/ Rev.1, 1326, 1327
(e) IMO MSC. 1 /Circ.1392
(f) IMO MSC. 1 /Circ.1445
(g) IMO MSC. 1 /Circ.1466
(h) IMO Resolution MSC.402 (96)
(i) IMO MSC.1 /Circ.1578

1. The Department of Marine Administration circulates this directive in the exercise of the power conferred by Section 216-A (1) of the Myanmar Merchant Shipping Act 1923, as amended.

2. This directive applies to all Myanmar flagged ships engaged on International voyage complying with requirements the International Safety of Life at Sea 1974, as amended.

3. The Guidance for the Lifeboats lowered by means of falls and Free-fall lifeboats is set out by Department of Marine Administration to fulfill the relevant requirements of the International Safety of Life at Sea 1974,as amended and above-mentioned references.

Maung Maung Oo
Director General
Department of Marine Administration

Department of Marine Administration
Ministry of Transport and Communications
Republic of the Union of Myanmar

GUIDANCE FOR LIFEBOATS LOWERED BY MEANS OF FALLS AND FREE-FALL LIFEBOATS

2017

Introduction

1 This Guidance for Lifeboats lowered by means of falls and Free-fall lifeboats applies to

- All Myanmar flagged ships fitted with survival craft launching appliances as referred to SOLAS III/20.11.1 and
- All Myanmar flagged ships' lifeboats and rescue boats fitted with on-load release gear as referred to SOLAS III/ 20.11.2.

2 Maintenance, Testing and Inspection shall be carried out in accordance with SOLAS Reg III/20.3.1 and IMO MSC/Circ,1206 Rev.1. Shipping Companies shall take into account the existing guidance in the context of their obligations under ISM Code.

3 The company should ensure that documentary evidence is available to third party to confirm that the competence person carrying out the service, maintenance, repair ,and inspection and examination activities covered by SOLAS Regulation III/20.11 is properly trained and familiar with these duties.

4 Under the provisions of MSC.1/Circ.1277, representatives of an organization authorized by a SOLAS contracting party or Recognized Organization acting on behalf of a SOLAS contracting party.

5 Records of all activities relating to the referenced regulations must be retained on board for inspection by Department of Marine Administration Surveyors, Recognized Organization Surveyors/ Auditors and Port State Control Officers.

6 This Guidance for Lifeboats lowered by means of falls and Free-fall lifeboats is herewith set out by the Department of Marine Administration stated in the Directive 11/2017 on 23rd July 2017.

CONTENTS

Part I. GUIDELINES FOR DEVELOPING OPERATION AND MAINTENANCE MANUALS FOR LIFEBOAT SYSTEMS* (Reference: MSC. 1 /Circ. 1205, 26 May 2006)

1 The Maritime Safety Committee, at its eighty-first session (10 to 19 May 2006), taking into account the number of casualties with lifeboat systems, further recognizing the need to improve manuals for operation and maintenance of lifeboat systems, and having considered proposals by the Sub-Committee on Fire Protection at its fiftieth session, approved the Guidelines for developing operation and maintenance manuals for lifeboat systems, as set out in the annex.

2 As advised by The Maritime Safety Committee of IMO, the Department of Marine Administration hereby brings the annexed Guidelines to the attention of all parties concerned with their application, as appropriate.

ANNEX

GUIDELINES FOR DEVELOPING OPERATION AND MAINTENANCE MANUALS FOR LIFEBOAT SYSTEMS

1 Scope and purpose of the guidelines

Seafarers often change ships and sometimes are not familiar with the lifeboats on their ships. Casualties with lifeboat systems are often caused by poor understanding of the lifeboat systems, especially release gear systems. User-friendliness of manuals for lifeboat systems is, therefore, important to help prevent casualties.

The purpose of these guidelines is to encourage development of user-friendly manuals for operation and maintenance of lifeboat systems including launching appliances. These manuals should be easy to understand. The guidelines demonstrate the appropriate level of detail and use of illustrations in explaining the safe use of critical systems. Manufacturers of lifeboats and launching/recovery appliances are invited to make manuals easy to understand, taking into account these guidelines. The use of video materials in conjunction with printed manuals can be an effective tool for mariners who may not be inclined to read a manual.

These guidelines are not applicable to the emergency instructions required by SOLAS regulation III/8, operating instructions such as posters and signs required by SOLAS regulation III/9 or other brief instructions for operation of lifeboats.

These guidelines are for manuals to be carried on ships for use by seafarers, and accordingly the section on weekly and monthly inspection and maintenance does not refer to detailed maintenance/repair work. Detailed maintenance/repair work should be conducted by the manufacturer's representative or a person appropriately trained and certified by the manufacturer for the work in accordance with MSC.1/Circ.1206.

2 Collaboration of manufacturers of the lifeboat and the launching appliance

A manual for a lifeboat system including launching appliance should be developed with the collaboration of manufacturers of the lifeboat and the launching appliance and preferably be a single document. As a minimum, the use of different words for the same gear/parts of the lifeboat system should be eliminated by the collaboration of manufacturers of the lifeboat and the launching appliance to prevent misunderstanding by seafarers. Hereafter, these guidelines assume a manual for a lifeboat system includes the launching appliance as a minimum, but separate lifeboat, release gear, and launching appliance manuals may be effective if adequately co-ordinated and using the same style of presentation per these guidelines.

3 Contents of a manual for a lifeboat system

3.1 Items to be included

An operation and maintenance manual for a lifeboat system should include, as a minimum, the following items:

.1 overview and specification of the lifeboat system;

.2 explanation of the structure and working principle of the major parts of the lifeboat system including release gear systems;

.3 operation of the lifeboat system; and

.4 routine inspection and maintenance of the lifeboat system.

3.2 Organization, description and layout of manual

3.2.1 Outline

It is recommended that a manual for a lifeboat system be developed with the following major divisions:

1 General description of the whole lifeboat system.

2 Method of checking proper closure of release hooks.

3 Launching operation.

4 Recovery operation.

5 On-load/off-load release gear.

6 Inspection and maintenance.

3.2.2 Explanation of major components and their function

The structure and working principle of the lifeboat's major components, in particular the on-load/off-load release gear, should be explained using figures and preferably three-dimensional perspectives. In addition, the operation of the release gear should be described sequentially, using short phrases written in the active voice.

3.2.3 Operation of lifeboat system including release gear systems

The operation of the lifeboat system should be described using the following elements:

.1 flow of the operation should be explained;

.2 detail of operation should be explained with figures. Operation and relevant movement of the parts of the release gear should be described with illustrations/photos, preferably using annotations and arrows to show direction of movement; and

.3 hazards, precautions and notes should be identified with symbols specific to the level of risk. As an example of the various levels of risk and the appropriate associated symbols, the following are recommended:

.1 For the highest level of risk, such as in the explanation of "on-load release operation", the following symbol (red background) should be used with a warning statement similar to the following:

Warning

This operation releases the lifeboat and may result in the lifeboat dropping and causing death or serious injury if released too soon.

Note: International standard symbols (ISO 3864-1 and ISO 7010) are recommended where appropriate, but since marine use is excluded from the scope of these standards, and they fail to indicate different levels of risk, the "graduated" symbols are recommended.

.2 For the second highest level of risk, such as in the explanation of "davit arm stop release operation", the following symbol (yellow background) should be used with a caution statement similar to the following:

Caution

Incorrect or incomplete resetting may cause the lifeboat to drop resulting in death or serious injury.

.3 For less critical mandatory instructions the following symbol (blue background) should be used with appropriate instruction:

Mandatory

Place the manual gripe out of the way to prevent tangling round the lifeboat.

. . .

.4 Important notes may be emphasized with symbol and style of instructions similar to the following:

Note

In case the hook is not released by the above operations, confirm condition of each hook and whether the boat is waterborne or not. Even though the hooks cannot be released by the above mentioned off-load release operation, the on-load release procedure, described in the following pages, is possible.

.5 Prohibited actions should use the following symbol (coloured red) and style of instruction:

Never

Never enter lifeboat without ensuring complete closure of release hooks. Incomplete resetting of the release hooks can cause the lifeboat to drop and may result in the death of occupants.

3.2.4 Inspection and maintenance

The items for weekly and monthly inspection/maintenance and other inspection/maintenance should each be explained separately.

4 Improvement of user-friendliness of a manual

4.1 Use of figures/photographs

Figures, preferably coloured, or photographs should be used as far as practicable to make manuals easy to understand.

4.2 Use of standard wording

The following standard wording should be used to explain lifeboat systems where provided, and for each of the applicable items illustrations should be provided to show the items and their location in the lifeboat or on the ship. The use of alternative terms for variety should be avoided, except to further define or clarify a term so that the reader never has to guess what item or system is being discussed.

.1 Davit/winch:

- .1 Auto releasing gripe
- .2 Davit arm
- .3 Davit arm stop
- .4 Davit remote control wire handle
- .5 Frame
- .6 Maintenance (hanging off) pennant attachment points, if provided
- .7 Manual gripe, if provided
- .8 Remote control wire
- .9 Winch hand crank handle
- .10 Winch centrifugal or lowering brake
- .11 Winch manual brake safety pin
- .12 hand brake or stop brake lever

.2 Freefall:

- .1 Roller or sliding pad
- .2 Sea lashing rope
- .3 Emergency release device

.3 Release gear:

- .1 Hook control cable
- .2 Hook retainer (lock piece)
- .3 Hydrostatic interlock
- .4 Hydrostatic interlock lever, if provided
- .5 Interlock (“mechanical protection” of on-load release)
- .6 Maintenance (hanging off) pennant attachment points, if provided
- .7 On-load release
- .8 Release handle

.9 Release handle “closed (locked)” and “open” positions
.10 Release handle “safety pin”
.11 Release hook (hook unit) (fore and aft hooks)
.12 Reset lever, if provided
.13 Safety latch (keeper)

.4 Suspension:

.1 Foul weather recovery strops
.2 Suspension block
.3 Suspension link (lifting ring)

.5 “Officer in charge” of lifeboat

5 Example of an operation and maintenance manual for a lifeboat system

An example of an operation and maintenance manual for a fire-protected lifeboat system is attached in the following pages just for reference. It demonstrates the suitable level of detail that should be expected for manuals. It should be noted that lifeboat systems are different from each other and some specifications in the example manual are not applicable to lifeboat systems of other types. The example attached at appendix is a model manual which is recommended as an example for developing specific manuals for lifeboat systems launched by falls, but the same general principles should be used for manuals for freefall lifeboat systems.

APPENDIX

EXAMPLE OPERATION AND MAINTENANCE MANUAL FOR A LIFEBOAT SYSTEM*

Table of contents

* Of a lifeboat being launched using falls and a winch, hereinafter referred to as a lifeboat.

1 General

The lifeboats are stored on the boat davits on both sides of the ship. In case of emergency, the crew can board the lifeboat and escaped with the lifeboat directly from its stowage position.

The launching appliance consists of a boat davit (davit arm, frame, platform, falls, suspension block, and gripes/lashing device) and a boat winch (reduction gears, hand brake and centrifugal brake).

Swinging out and lowering of the lifeboat can be controlled both from the inside of the lifeboat and at the ship's deck.The lowering speed of the lifeboat can be controlled by operating the remote control wire inside the lifeboat or by operating the remote control lever on the ship's deck. Moreover, it is possible to suspend the lowering operation of the lifeboat at any height.

Recovery of the lifeboat is performed by operating the boat winch with the push-button switch box. When the davit arm reaches a prescribed position, the boat winch is automatically stopped by the limit switch. After the activation of the limit switch, the boat winch is operated manually to wind up the lifeboat to its stowage position. The boat winch is provided with a safety device to prevent the reverse operation of the manual handle.

The lifeboat is equipped with on-load/off-load release gear which complies with the requirements of the IMO Life-Saving Appliance (LSA) Code. The release gear system is equipped with a hydrostatic interlock system so that it will normally not release the hooks until the boat is waterborne.

To avoid possible injury or death, read this manual carefully before using the boat davit, the boat winch, and the on-load/off-load release gear.

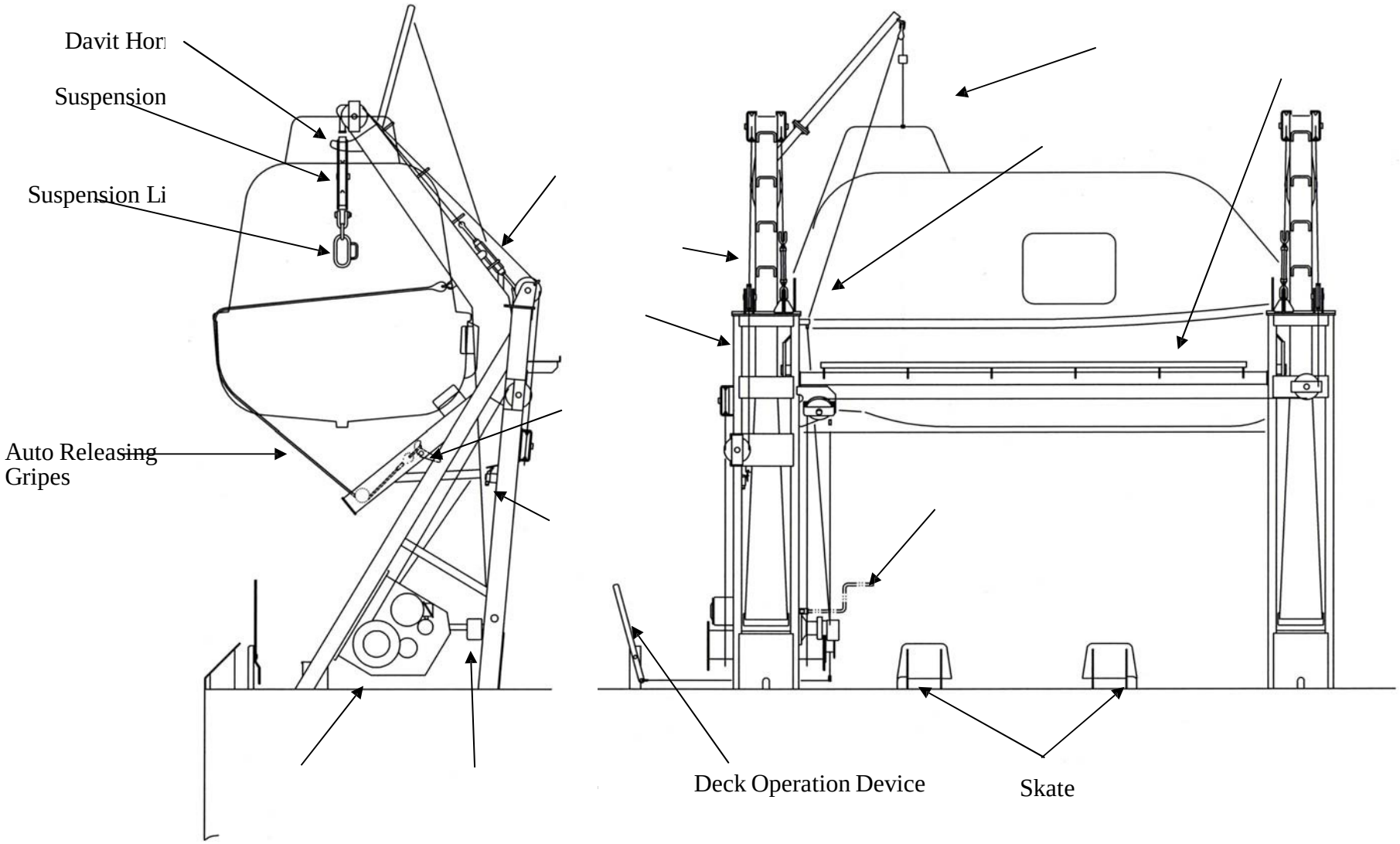


Fig. 1.1 Lifeboat davit arrangement

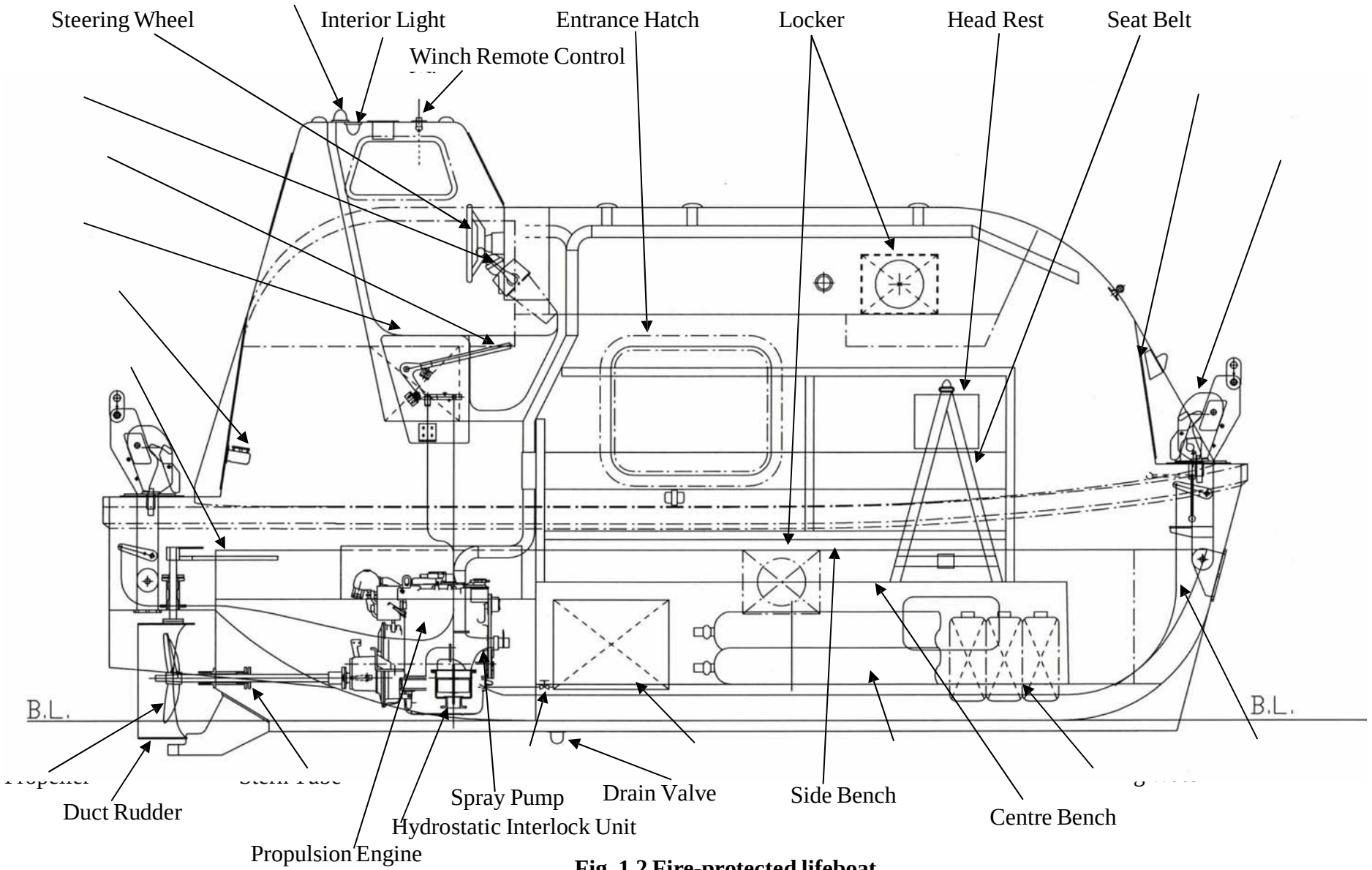


Fig. 1.2 Fire-protected lifeboat

2 Method of checking proper closure of release hooks

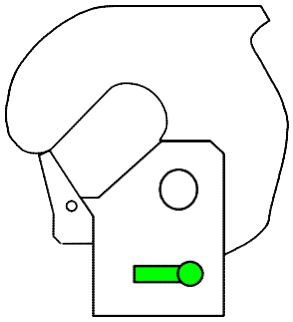
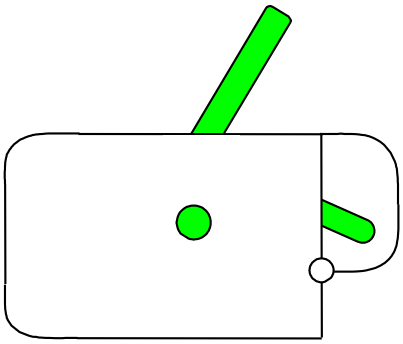
2.1 Safe use and operation of lifeboats during drills and inspection and maintenance is dependent on knowing that the release gear is properly reset.

Never

Never enter lifeboat without ensuring complete closure of release hooks. Incomplete resetting of the release hooks can cause the lifeboat to drop resulting in death.

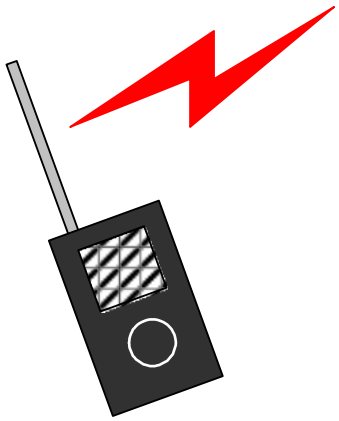
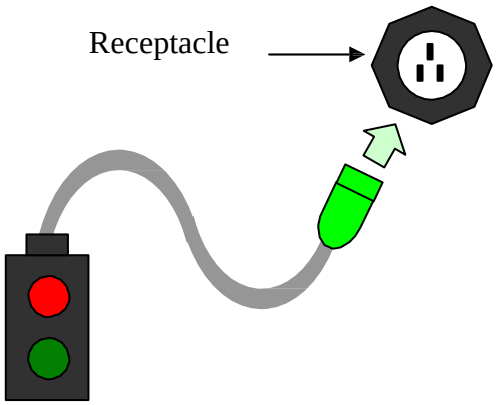
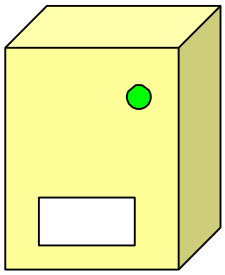
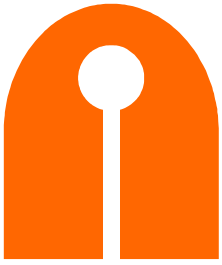
2.2 Purpose of on-load release. The IMO LSA Code requires, among other things, that the lifeboat be fitted with "***on-load release capability which will release the lifeboat with a load on the hooks. The release mechanism shall be so designed that crew members in the lifeboat can clearly observe when the release mechanism is properly and completely reset and ready for lifting.*** . . ." On-load release is needed for launching when there is a current, when the ship is making way, or potentially if there are waves which cause the hydrostatic interlock to only release intermittently. On-load release also allows an empty or fully loaded boat to drop from any height, which can kill or seriously injure the occupants. Therefore it is critical to know that the release gear is properly reset and the release handle secured.

2.3 Ensuring release hook closure. The first thing to check whenever entering the lifeboat when it is (or will be) supported by the falls is properly reset as follows:

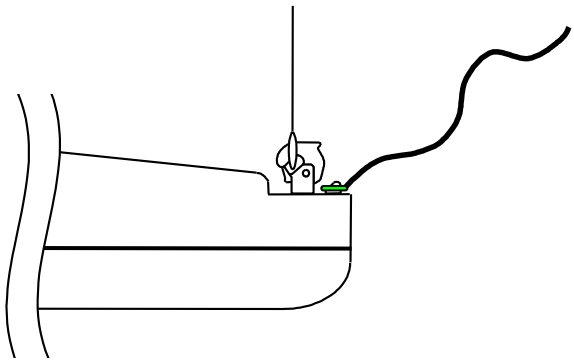
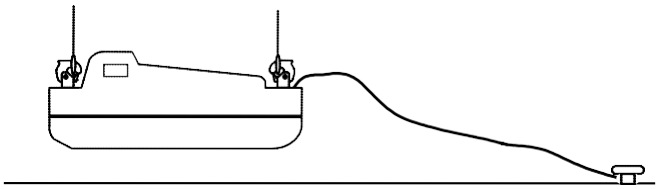
No.	Operation Guide	Schematic Diagram
1	Check that the reset lever on each hook is horizontal and in contact with its stop. <Activity in the lifeboat>	
2	Check that the release handle is in the closed (locked) position and safety pin is installed. <Activity in the lifeboat>	

3 Launching operation

3.1 Preparation before launching

No.	Operation Guide	Schematic Diagram
1	Prepare transceivers, and confirm the communication condition. <Activity on the ship>	
2	<In case of drill> Connect the push-button switch for recovering to the receptacle. <Activity on the ship>	
3	<In case of drill> Turn on the power switch of start panel. ✓ Detach the cable for the storage battery charge. <Activity on the ship>	
4	Don life jackets. <Activity on the ship>	

3.2 Setting of painter

No.	Operation Guide	Schematic Diagram
1	Confirm the connection of the painter on the painter release device of the lifeboat. <Activity on the lifeboat>	
2	Confirm the connection of the painter as far forward as practicable inboard of the falls but outboard of everything else. <Activity on the ship>	

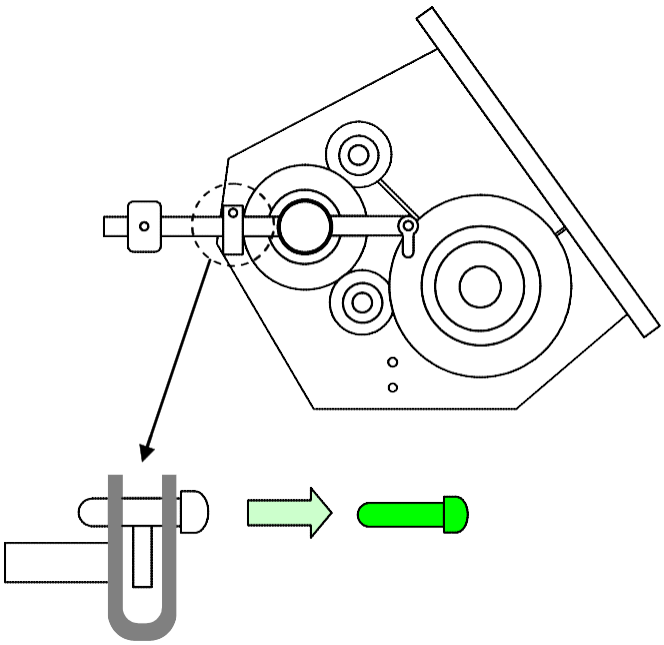
Caution

Ensure the painter is lead as far forward as practicable inboard of the lifeboat falls but outboard of everything else. Failure to do so will result in severe difficulties clearing the vessel during abandonment.

3.3 Release of safety pin (if fitted) for winch hand brake lever

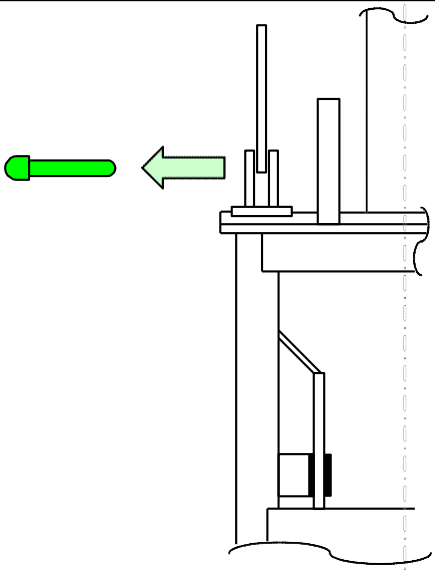
3.2. Caution

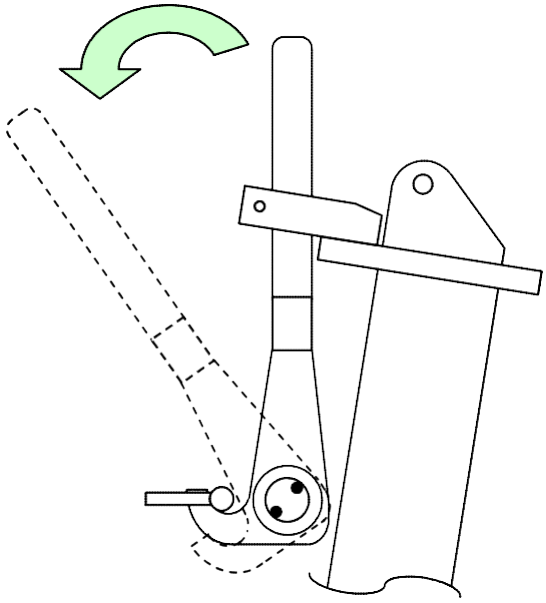
The safety pin of the winch hand brake should not be pulled out until the completion of the preparation described in paragraphs 3.1 and

No.	Operation Guide	Schematic Diagram
1	Pull out the safety pin (if fitted). <Activity on the ship>	

3.4 Release of davit arm stopper

Go up to the platform of the davit system (platform for boarding the lifeboat).

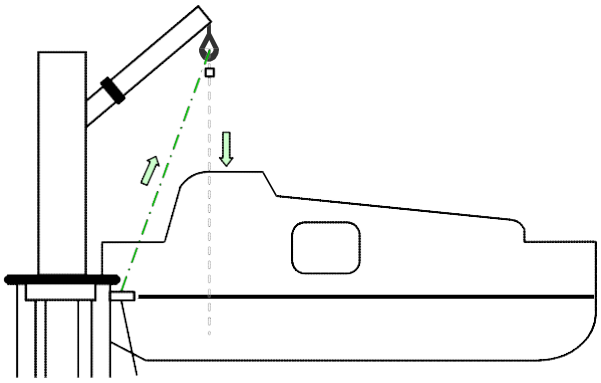
No.	Operation Guide	Schematic Diagram
1	Wind the boat fall manually to take off the slack. Pull out the safety pin of the davit arm stop, if fitted. <Activity on the ship> Note: Safety pins are generally intended only for use during maintenance or in port.	

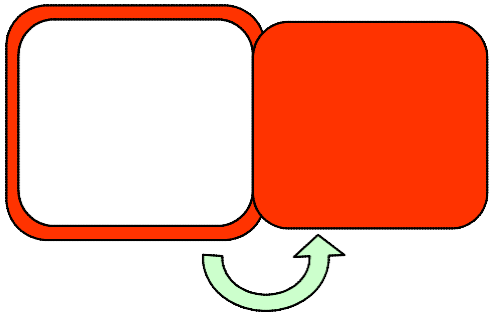
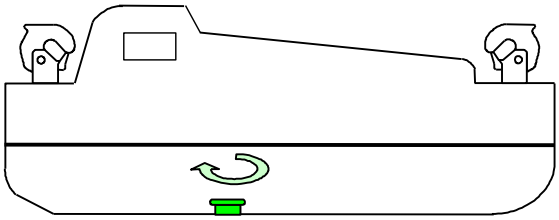
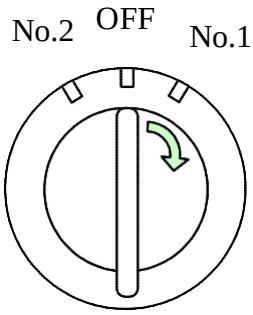
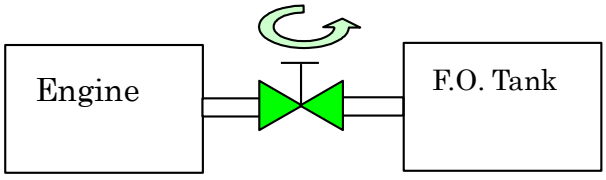
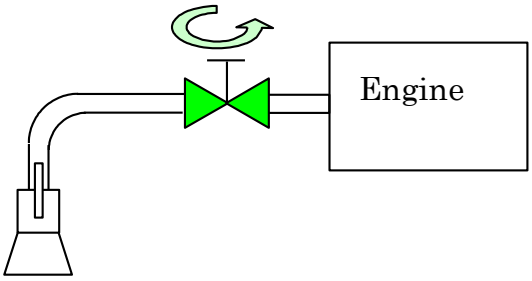
No.	Operation Guide	Schematic Diagram
2	Release the davit arm stop by operating the handle. <Activity on the ship>	

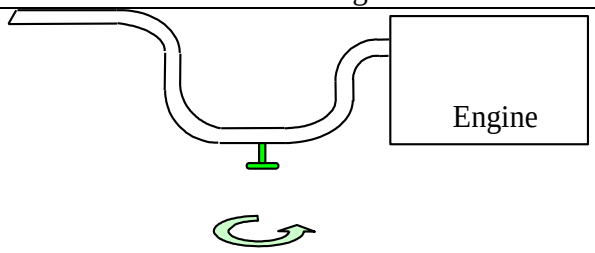
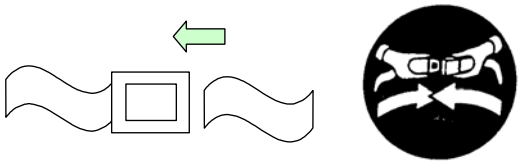
Caution

The handle should be fully operated to prevent the davit arm stop from being caught with the lock device.

3.5 Boarding the lifeboat

No.	Operation Guide	Schematic Diagram
1	Confirm that the remote control wire is drawn into the lifeboat. <Activity on the ship>	

No.	Operation Guide	Schematic Diagram
2	Open the lifeboat boarding door and board the lifeboat. <Activity on the ship> and <Activity in the lifeboat>	
3	Ensure the bottom plug is fitted and tight. <Activity in the lifeboat>	
4	Turn on the power supply switch. <Activity in the lifeboat>	
5	Open the fuel oil valve. <Activity in the lifeboat>	
6	Confirm that the cooling seawater valve is open. <Activity in the lifeboat>	

No.	Operation Guide	Schematic Diagram
7	Close the drain valve on exhaust pipe. <Activity in the lifeboat>	
8	Fasten seatbelt. <Activity in the lifeboat>	

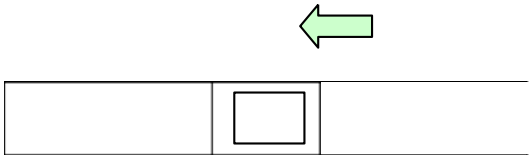
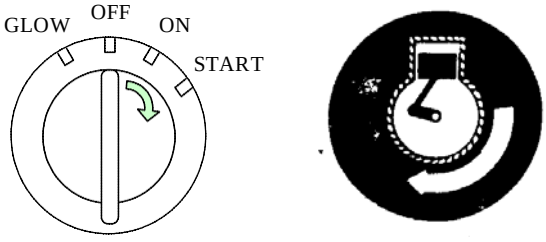
Caution

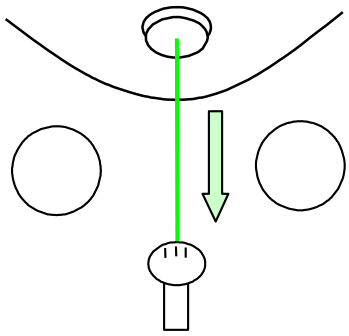
Seating positions of persons should be carefully selected to maintain a good trim of the lifeboat.

Warning

If the seat belt is not fastened, serious injury or death may occur.

3.6 Launching procedure

No.	Operation Guide	Schematic Diagram
1	Confirm that all crew boarded in the lifeboat are seated and their seatbelts are fastened. <Activity in the lifeboat>	
2	Start engine. <Activity in the lifeboat>	

No.	Operation Guide	Schematic Diagram
3	Pull down the winch remote control wire. <Activity in the lifeboat>	

Caution

- **Ensure that no gripe or lashing is tangled around the fore and aft hooks.**
- **Pull down the remote control wire gently and slowly during swinging out of the lifeboat.**
- **Only pull down the remote control wire fully to lower the boat after swing out is complete.**
- **The helmsman must tell the crew to standby for splashdown when the lifeboat reaches the vicinity of the water surface.**

Warning

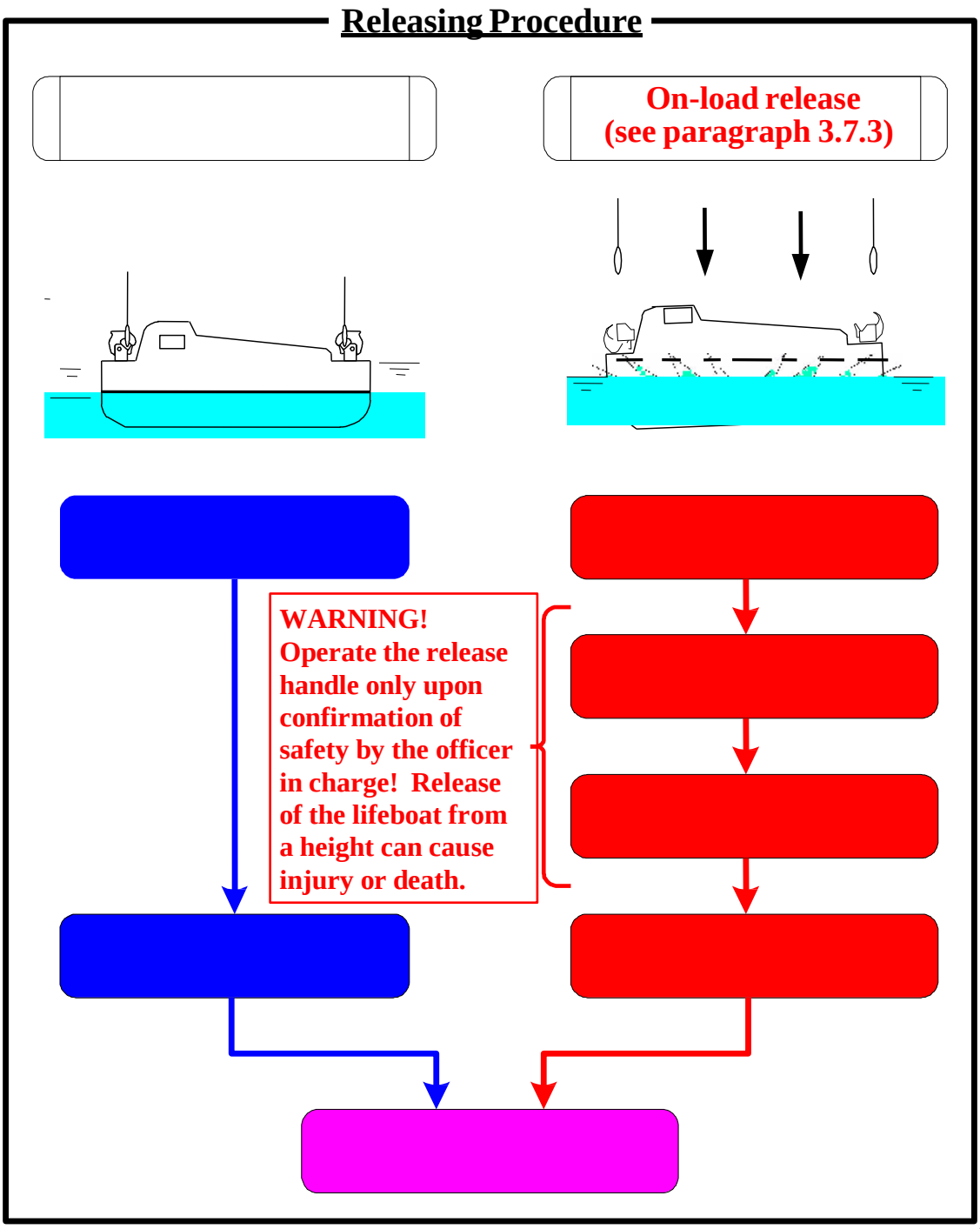
- **When using remote control gear from within the boat never wind the cord or wire around fingers, hand or wrist as this may result in the cutting off of fingers/hand.**
- **Do not stop the swinging out operation at deck position. Stopping shakes the lifeboat and may cause casualties.**
- **A rapid swing out may cause dangerous impact on the boat when the davit arm reaches the deck position.**
- **Inching operation shakes the lifeboat and is dangerous.**

Note **During lifeboat drills, the above mentioned procedures may not be applicable because the lowering operation may be controlled from the ship's deck using the deck operation device.**

3.7 Release gear operation

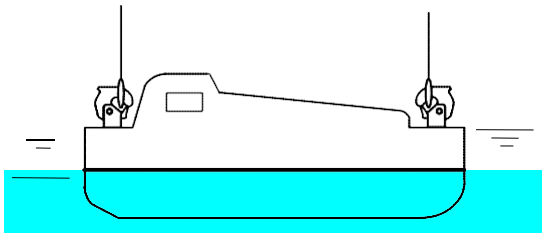
3.7.1 Releasing procedure

A flow chart of the off-load and on-load releasing procedures is shown in the following figure.



3.7.2 Off-load release

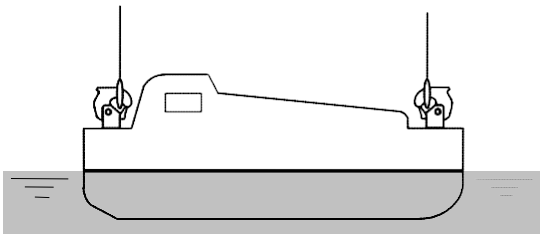
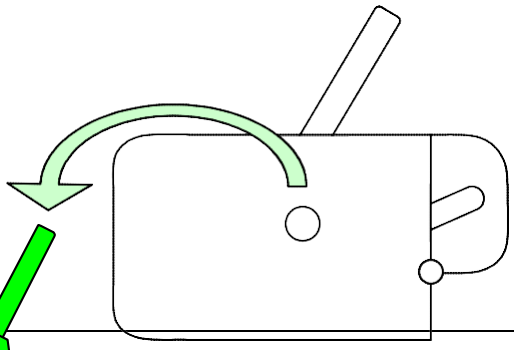
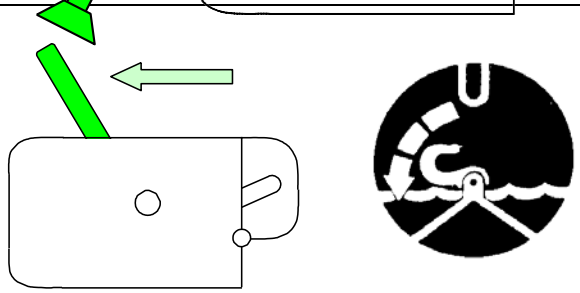
This operation is the normal method of launch and release and is conducted when the lifeboat is fully waterborne.



Caution

Confirm the following before the operation:

- **The lifeboat is fully waterborne.**
- **The engine is started.**
- **All crew are in their seats with their seatbelts fastened.**

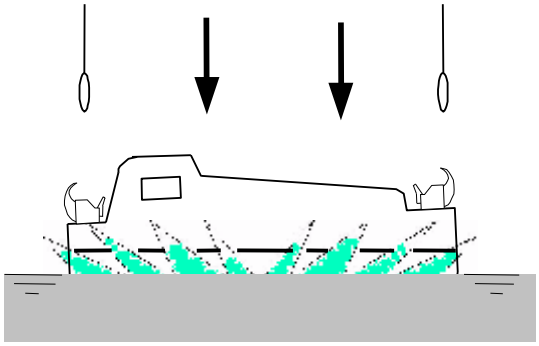
No.	Operation Guide	Schematic Diagram
1	Confirm that the lifeboat is waterborne. <Activity in the lifeboat>	
2	Pull out the release handle safety pin. <Activity in the lifeboat>	
3	Pull the release handle to the fully open position by one action. <Activity in the lifeboat>	

Note

In a case where the hook is not released by the above operations, confirm condition of each hook and whether the boat is waterborne or not. Even though the hooks cannot be released by the off-load release operation described above, on-load release procedure, described in the following pages, is possible.

3.7.3 On-load release

This operation is conducted when the lifeboat is not fully waterborne.



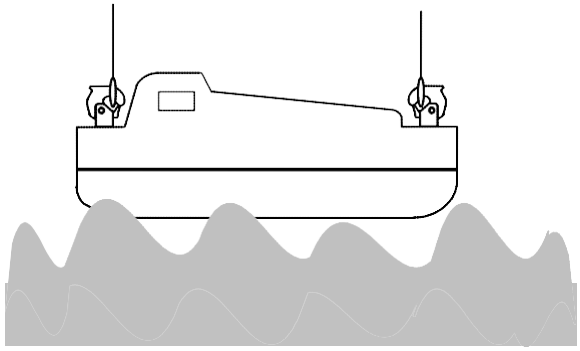
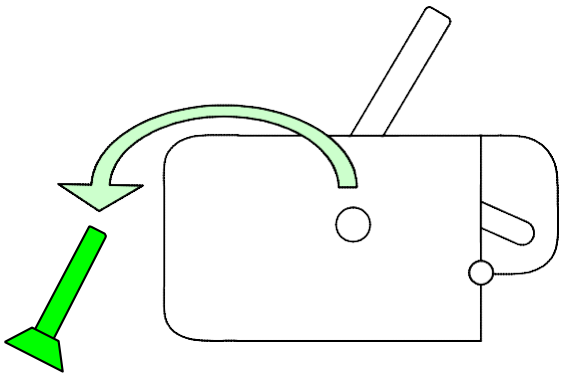
Warning

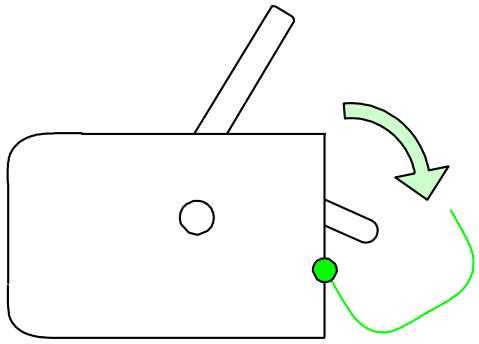
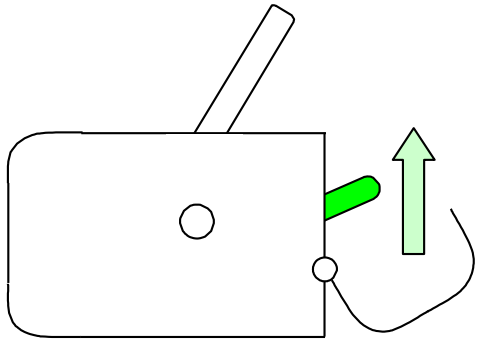
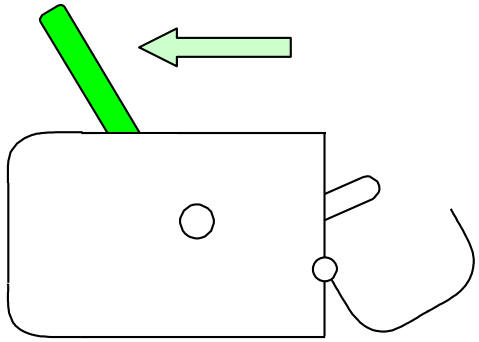
- **Pay due precautions and conduct the on-load release operation in accordance with orders of the officer in charge.**
- **Operation of the release handle upon insufficient confirmation of safety may result in death or injury due to dropping the lifeboat in the water from a height.**

Caution

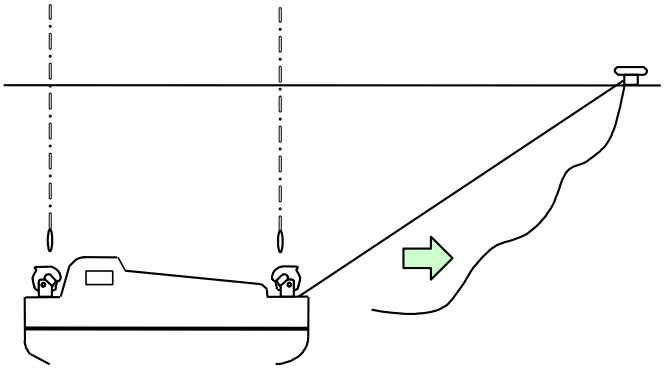
Confirm the following before the operation.

- **The lifeboat is as close as possible to the water surface.**
- **The engine is started.**
- **All crew are in their seats with their seatbelts fastened.**

No.	Operation Guide	Schematic Diagram
1	Confirm that the lifeboat is as close as possible to the water surface, but that the hydrostatic interlock is not triggered. <Activity in the lifeboat>	
2	Pull out the release handle safety pin. <Activity in the lifeboat>	

No.	Operation Guide	Schematic Diagram
3	Open the hydrostatic interlock cover. ✓ Unlock the latch of the interlock cover. <Activity in the lifeboat>	
4	Lift the hydrostatic interlock lever fully and hold it. <Activity in the lifeboat>	
5	Pull the release handle to the fully open position by one action. <Activity in the lifeboat>	

3.8 Painter release and lifeboat operation

No.	Operation Guide	Schematic Diagram
1	Release the painter. <Activity in the lifeboat>	
2	**Lifeboat operation** Ahead, astern, turning, spray, lighting of interior light and canopy light, and other performances. <Activity in the lifeboat>	

Caution

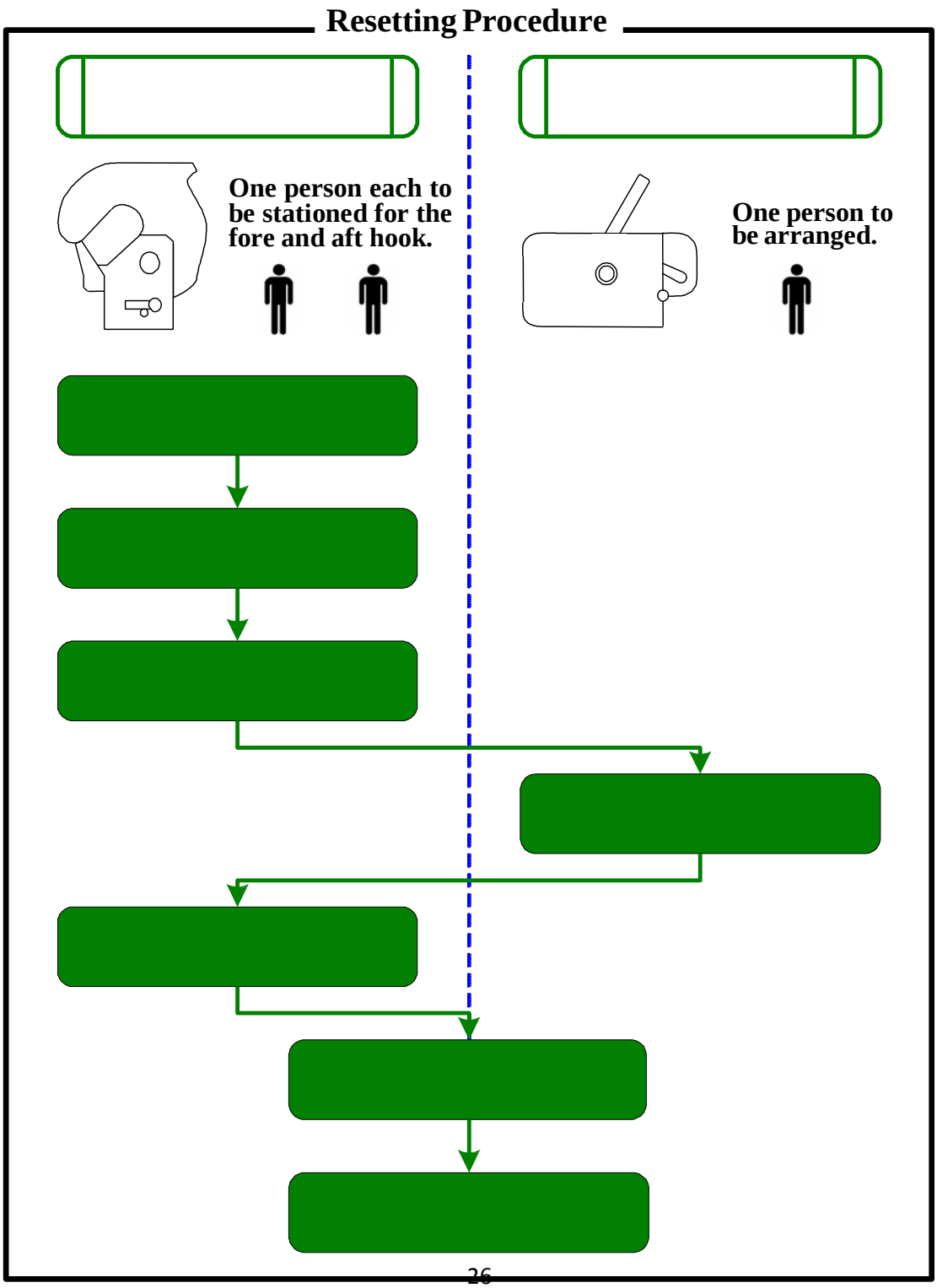
- **Do not operate the steering gear to turn the lifeboat while the painter is connected.**
- **The lifeboat should get clear of the ship promptly when the painter has been released.**

4 Recovery operation

Outline of the resetting procedures is shown in the following figure.

Warning

- **Incomplete resetting may result in death or serious injury due to dropping of the lifeboat in the water from a height.**

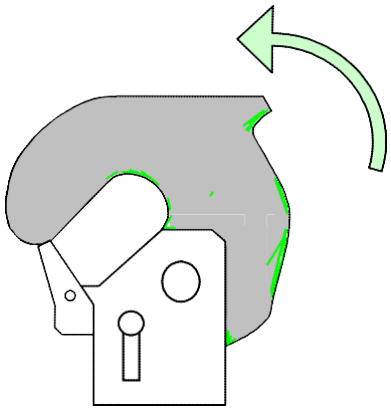
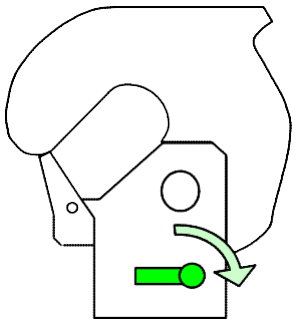
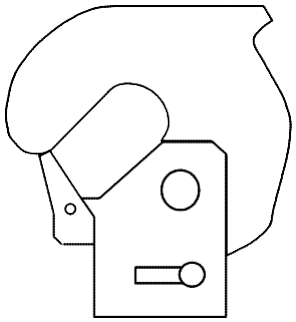


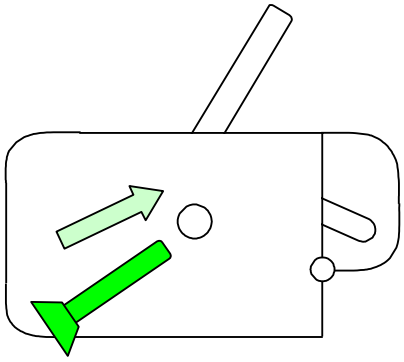
4.1 Resetting procedure of release hook

The resetting procedure is to be in accordance with the following steps.

Note

At least three people are required for the resetting of the hooks.

No.	Operation Guide	Schematic Diagram
1	Lift the fore and aft hooks and hold them closed. ✓ ~~A strong effort may be required to lift the hook and force the internal lock piece to engage.~~ <Activity in the lifeboat>	
2	Simultaneously swing down the reset levers on both fore and aft hooks in one continuous action to contact with the stop. ✓ ~~The release handle returns to its closed (locked) position automatically when the reset levers are swung down.~~ <Activity in the lifeboat>	
3	Confirm the fore and aft hooks are in the normal reset positions. ✓ ~~Make sure that the reset lever is in contact with the stop.~~ <Activity in the lifeboat>	

No.	Operation Guide	Schematic Diagram
4	Make sure that the release handle is in the closed (locked) position and insert the safety pin. ✓ If the release handle is not in its closed (locked) position, it is not possible to insert the safety pin. <Activity in the lifeboat>	

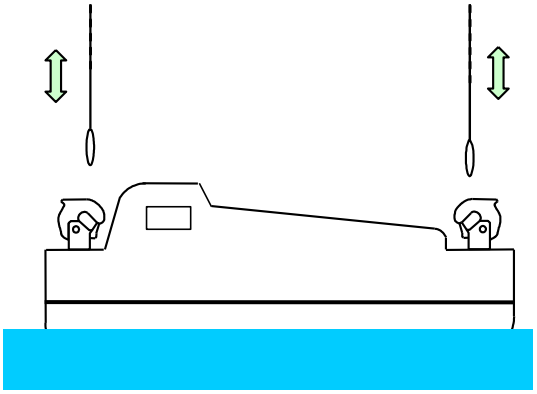
4.2 Recovery procedure

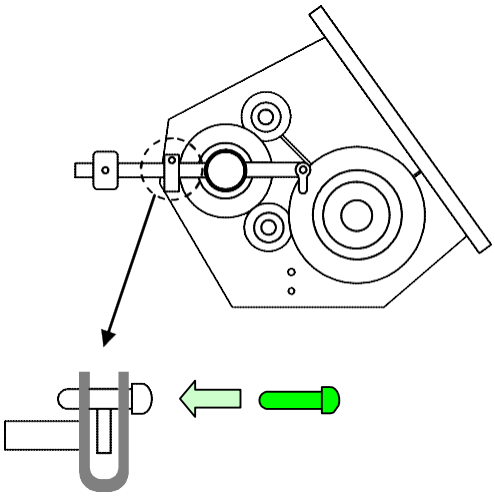
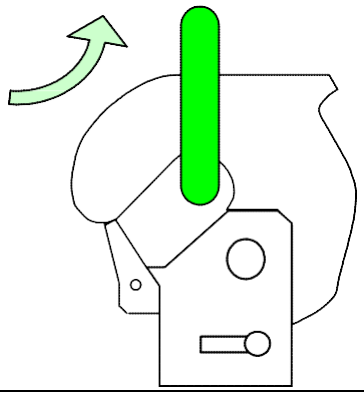
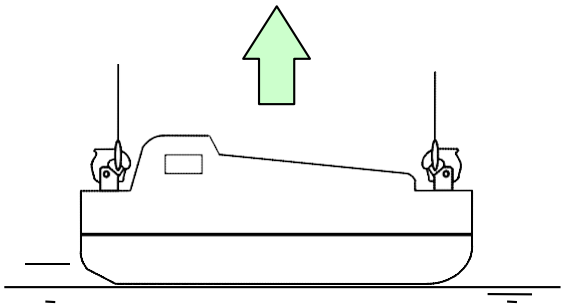
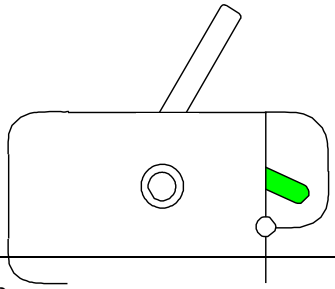
The recovery procedure is to be in accordance with the following steps only after completing the release gear resetting.

Warning

- **Great care must be exercised in reconnecting the hooks that hands and fingers are kept clear.**
- **Failure to confirm proper resetting or to follow all steps below may result in death or serious injury due to dropping the lifeboat in water from a height.**

4.2.1 Connection of the suspension link

No.	Operation Guide	Schematic Diagram
1	Manoeuvre the lifeboat to come under boat falls.	
2	Adjust the heights of the suspension links by raising or lowering the boat falls. <Activity on the ship> and <Activity in the lifeboat> under good communication.	

No.	Operation Guide	Schematic Diagram
3	Insert the safety pin of the boat winch handbrake. <Activity on the ship>	
4	Connect the suspension links of the davit simultaneously to both, fore and aft hooks. <Activity in the lifeboat>	
5	Hoist the lifeboat just clear of the water and stop hoisting. ✓ Confirm that the fore and aft hooks are properly connected. <Activity on the ship> and <Activity in the lifeboat>	
6	Confirm that the hydrostatic interlock lever has moved to the "locked" position for the lifeboat not being waterborne. <Activity in the lifeboat>	
7	Where the resetting is incomplete, return to the first step.	

Do not conduct recovery operation of the lifeboat unless the above procedures are fully completed.

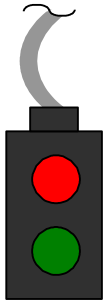
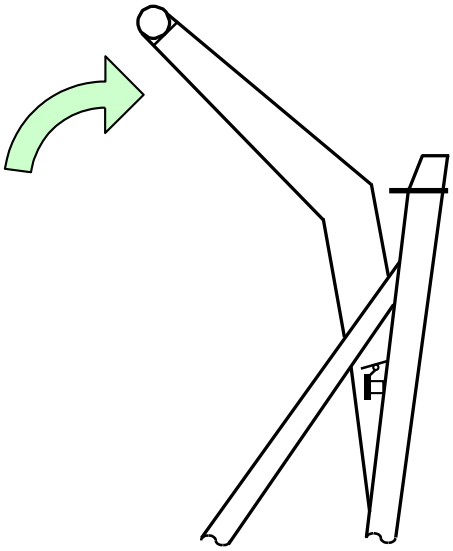
Caution

- **./ Do not connect the suspension link of the davit to the hooks until reset of the hooks has been fully completed. It is dangerous to connect the suspension link during the resetting operation of the hook and results an incomplete reset.**
- **./ In case of using recovery strops, it is required to connect the bottom link of the strops instead of the suspension link to the hooks.**

Warning

- **./ Both hooks should be connected simultaneously to prevent damage due to excessive load on one hook.**
- **./ If only one hook is connected, the lifeboat may be suspended by the single hook due to wave action resulting in injury or death.**

4.2.2 Hoisting the lifeboat

No.	Operation Guide	Schematic Diagram
1	Hoist the lifeboat by operating the winch using the push-button switch following the instruction by the officer in charge. <Activity on the ship>	
2	Hoist the lifeboat until the winch is stopped by the limit switch. <Activity on the ship>	

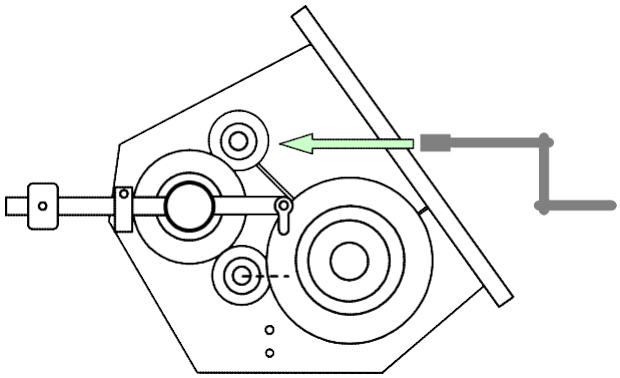
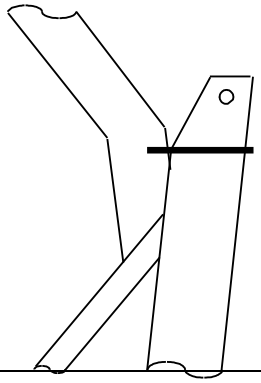
- **The boat winch stops automatically when the davit arm strikes the limit switch.**
- **Where the limit switch of boat winch does not work correctly, the winch operator should manually stop the hoisting operation immediately.**

No.	Operation Guide	Schematic Diagram
3	Disembark from the lifeboat. <Activity on the ship> and <Activity in the lifeboat>	

4.3 Stowage procedure

Note

Position two persons on davit platform to watch for proper stowage.

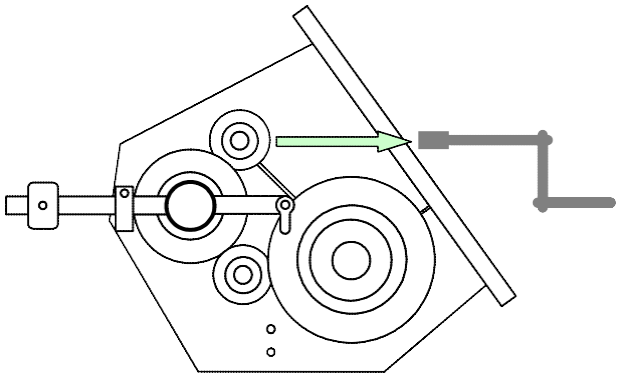
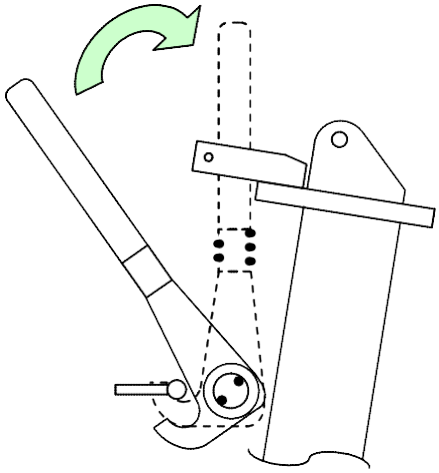
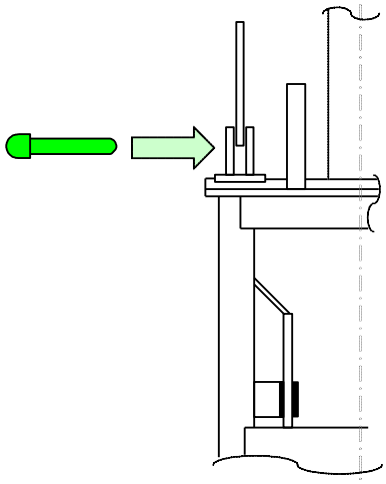
No.	Operation Guide	Schematic Diagram
1	Hoist the davit arm manually. <Activity on the ship>	
2	Confirm that the davit arm is in contact with the stop on platform. <Activity on the ship>	

Caution

- **Each person on the platform should signal to the winch operator just when the davit arm reaches the stop on the frame.**
- **Confirm that the davit arm and the stops are in contact fore and aft.**

Warning

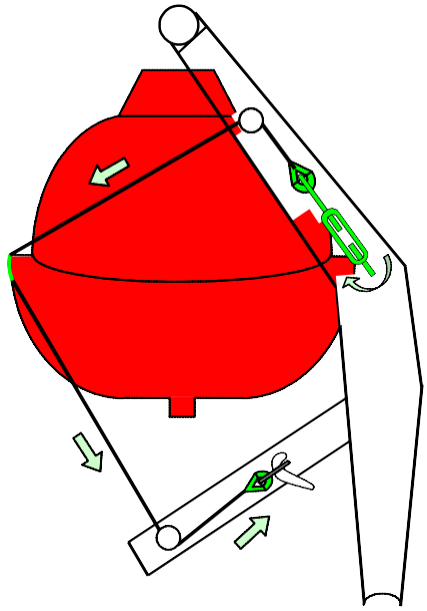
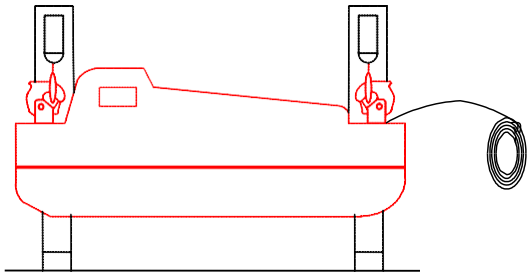
- **Stop the hoisting operation immediately when the signal from the watchman is received.**
- **Over hoisting by manual operation may have serious consequences due to damage of the boat fall and the davit.**

No.	Operation Guide	Schematic Diagram
3	Detach the manual hoisting handle. <Activity on the ship>	
4	Set the davit arm stop immediately. <Activity on the ship>	
5	Insert the safety pin to the davit arm stop handle. <Activity on the ship> Note: Safety pins are generally intended only for use during maintenance or in port.	

No.	Operation Guide	Schematic Diagram
6	Lower the suspension block on the davit horn by releasing the handbrake of the winch. <Activity on the ship>	Davit horn Suspension Block

Warning

- **If the suspension blocks are not on the davit horn, the boat falls remain in tension during sea going and the load may cause damage to the boat falls.**

No.	Operation Guide	Schematic Diagram
7	Install and tighten the auto release gripe, if fitted. ✓ Tighten the auto release gripe rope with the turnbuckle. <Activity on the ship>	
8	Connect the painter to the painter release hook on the bow of lifeboat. <Activity on the ship>	

5 On-load/off-load release gear system

5.1 General

This section describes the details of the release gear system. Read this section carefully for safe operation. This release gear system consists of fore and aft hooks, a release handle near the steering console, a hydrostatic unit and the associated cables (see Fig. 5.1).

The releasing operation of the hooks is conducted at the release handle near the steering console through the control cables terminating at the fore and aft hooks. The interlock system including the hydrostatic interlock unit is provided to prevent the release of the hooks when the boat is not waterborne.

The system also has an on-load release function which makes it possible to over-ride the interlock by the hydrostatic unit. Incorrect on-load release operation may cause fatalities and due precautions should be taken for this operation.

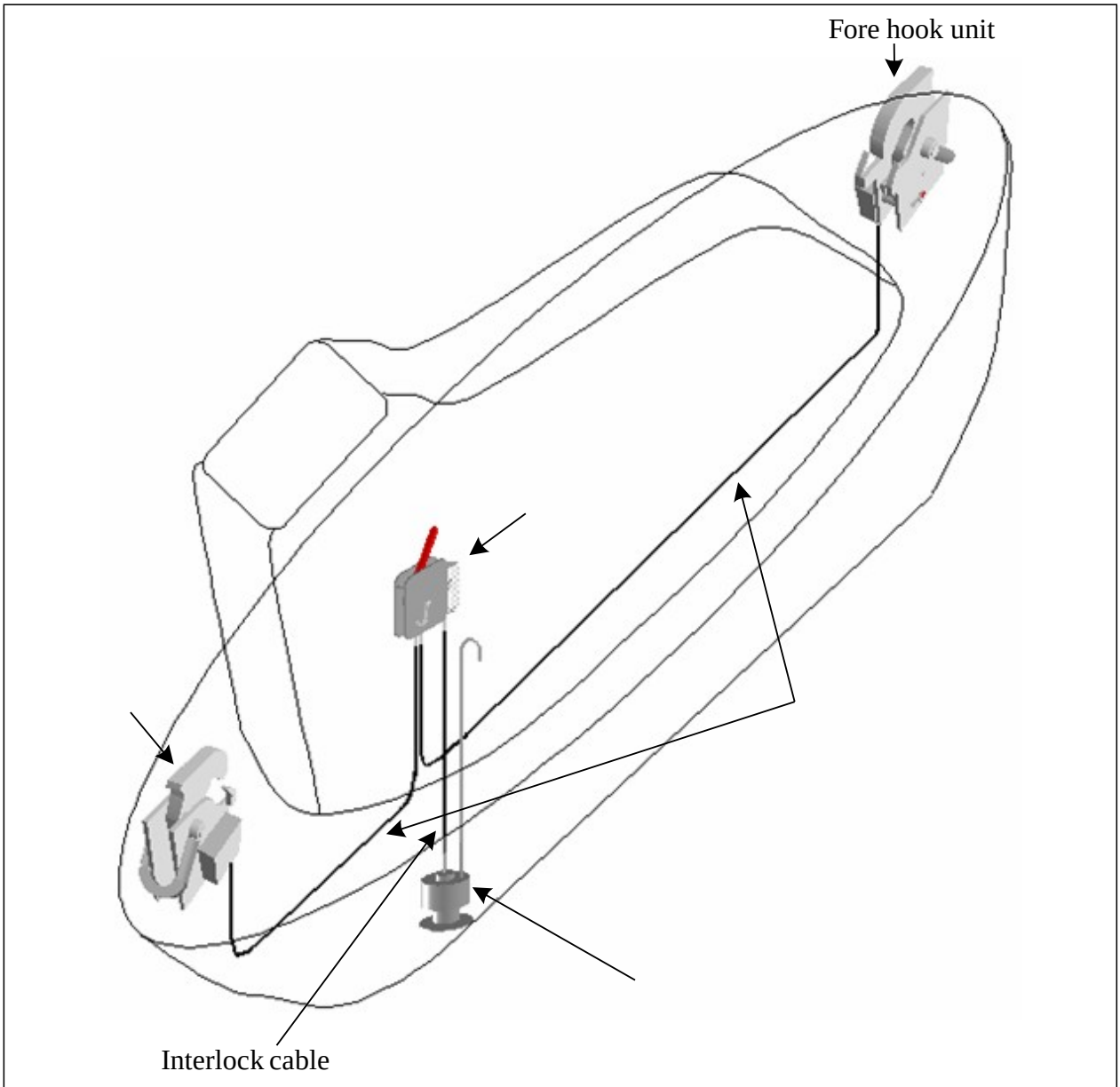


Fig. 5.1 Schematic of release gear system

5.2 Fore and aft hook units

5.2.1 Structure and parts names

The structure and parts names of the fore and aft hooks are shown in Figures 5.2.1.1 and 5.2.1.2. The fore and aft hooks are generally identical except for the direction of installation.

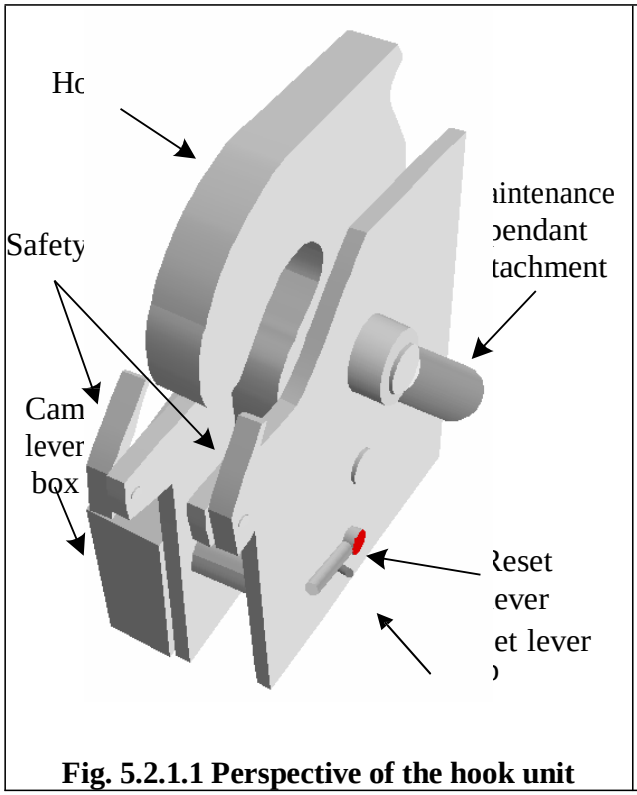


Fig. 5.2.1.1 Perspective of the hook unit

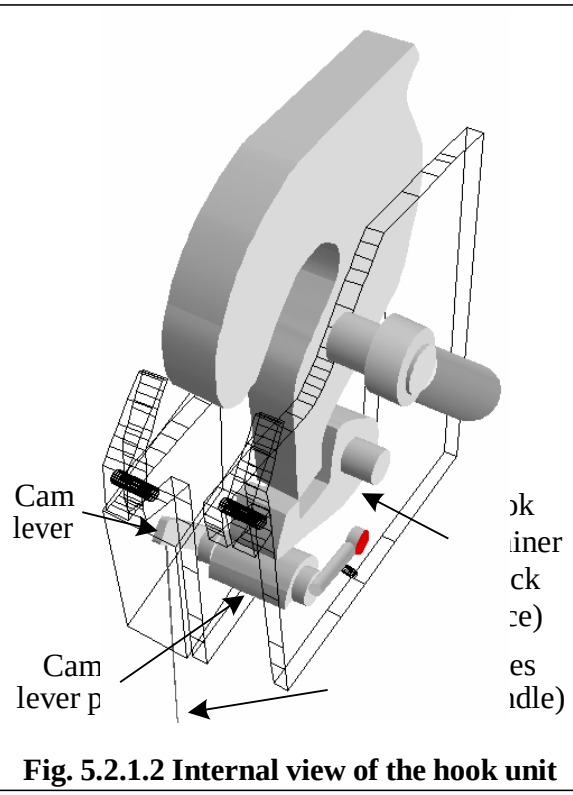


Fig. 5.2.1.2 Internal view of the hook unit

5.2.2 Releasing

When the release handle near the steering console is pulled, the cam lever pin is turned by the control cable and the lock piece is then made free. Finally the hook is turned and released (see figure 5.2.2).

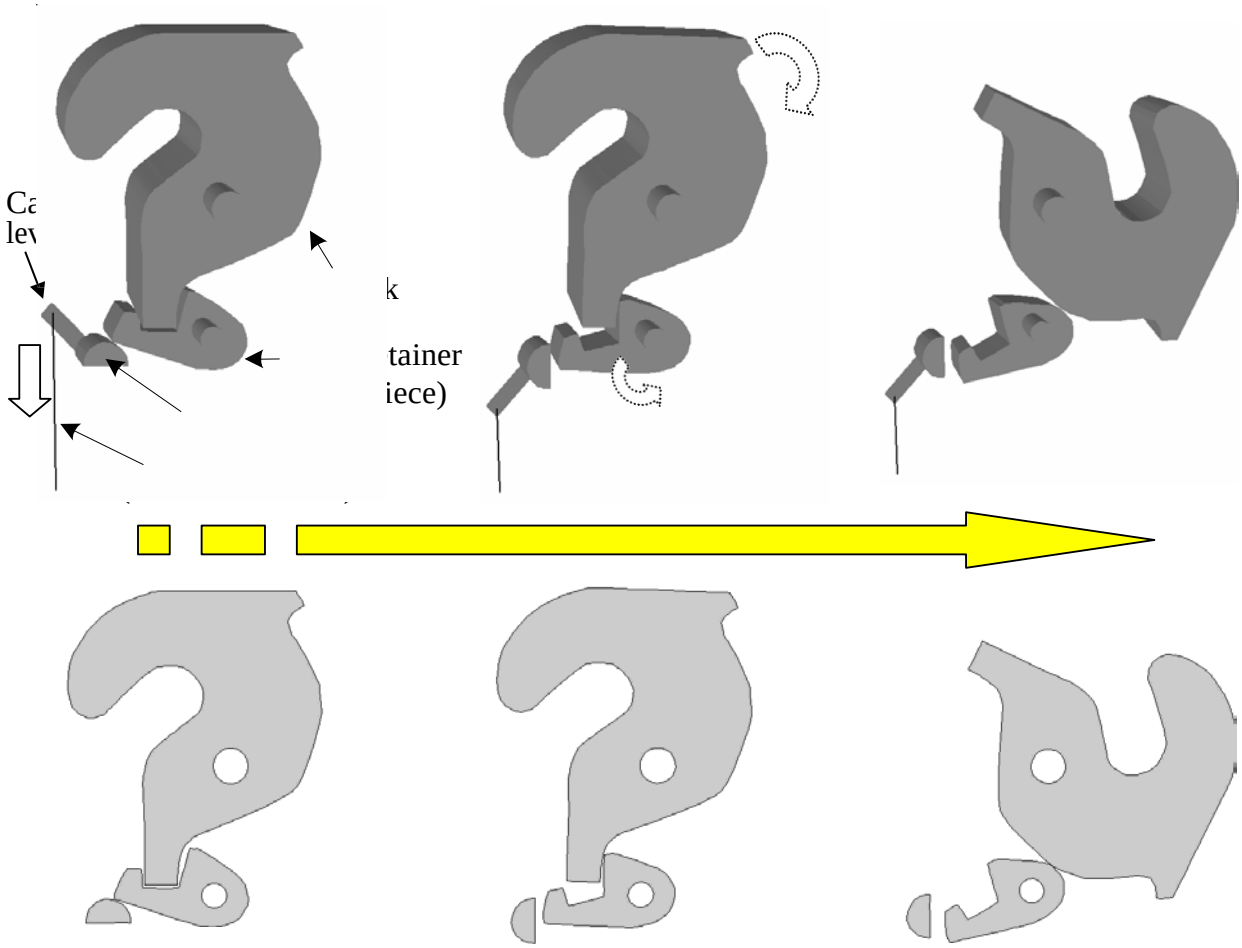


Fig. 5.2.2 Release principle of the hook unit

5.2.3 Resetting

After the resetting of hooks, the posture of each hook is held by the lock piece and the lock piece is locked by the cam lever pin with the reset lever. To ensure the proper resetting of the fore and aft hooks, the procedures described in paragraph 4.1 should be followed. The fore and aft reset levers must be operated simultaneously. After simultaneous resetting of the hooks, the release handle near the steering console also returns to the closed position (see figure 5.2.3).

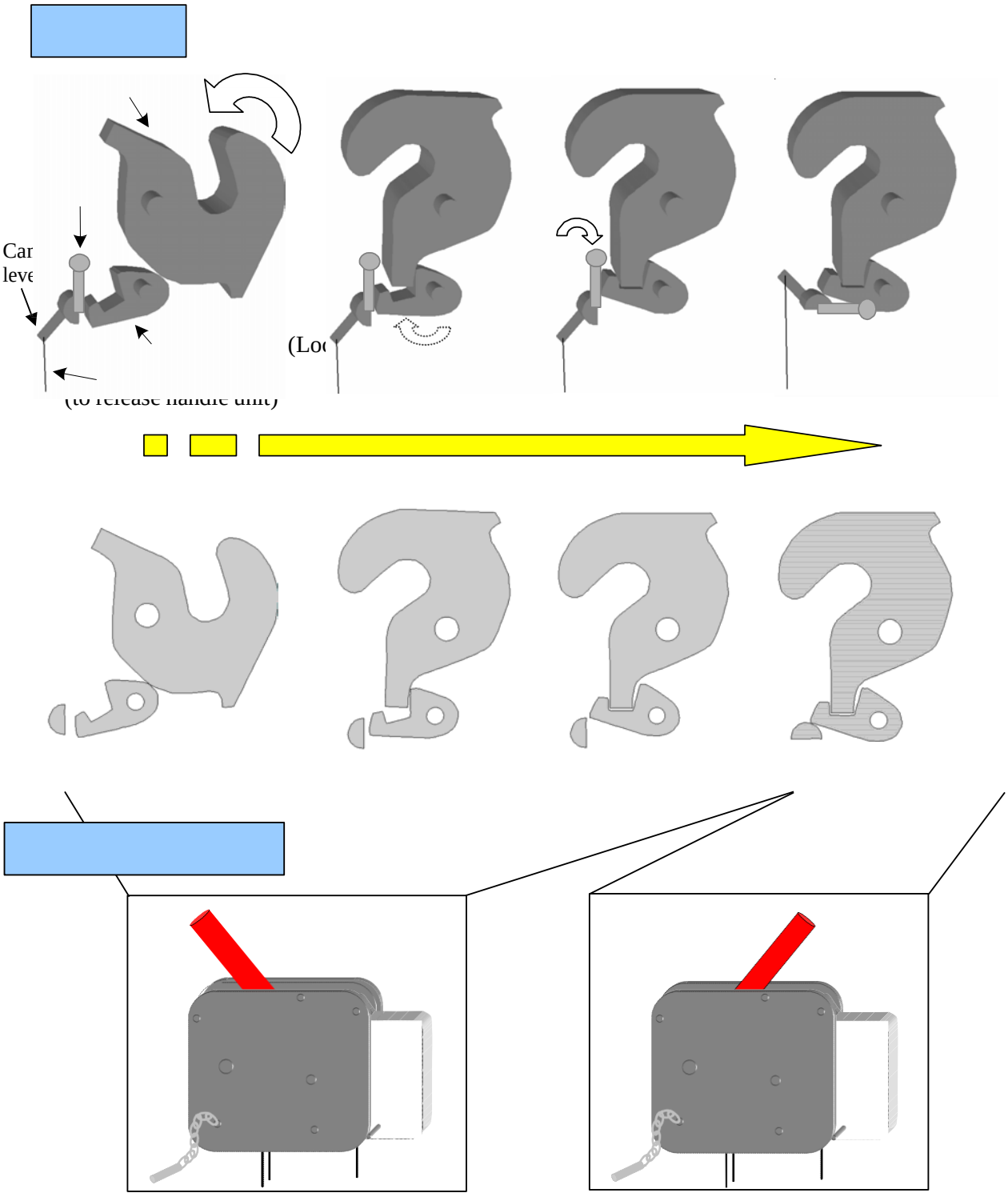


Fig. 5.2.3 Reset principle of the hook unit

5.3 Release handle unit

5.3.1 Structure and parts names

The structure and parts names of the release handle are shown in figures 5.3.1.1 and 5.3.1.2.

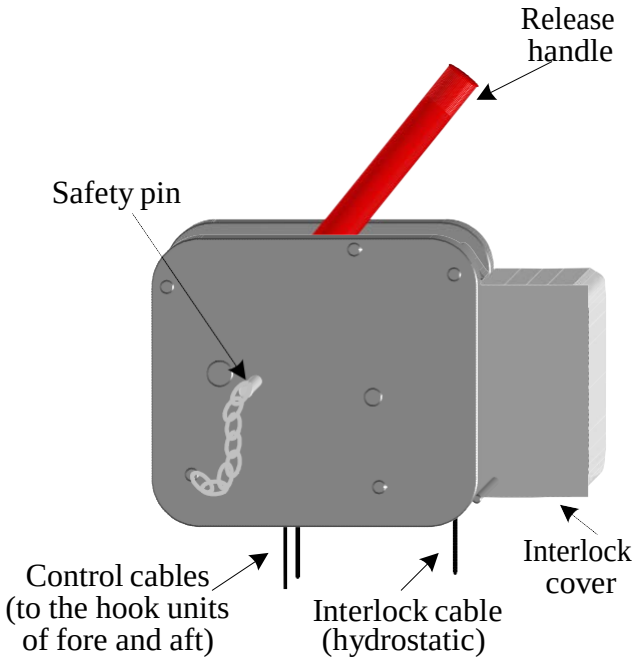


Fig.5.3.1.1 Perspective of the release handle unit

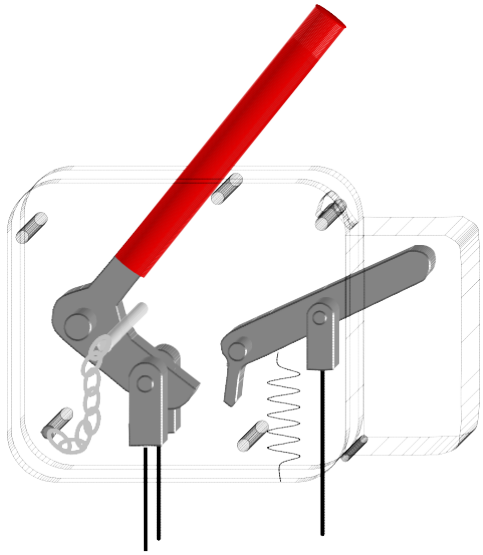


Fig.5.3.1.2 Internal view of the release handle unit

5.3.2 Operation

When the lifeboat is fully waterborne, the lifeboat can be released by removing the safety pin and then pulling the release handle fully and quickly to the open position (off-load release). The lifeboat can also be released by the same operation of the release handle even though the lifeboat is not fully waterborne, by opening the interlock cover and lifting up the interlock lever. This over-rides the interlock function of the hydrostatic interlock unit (on-load release).

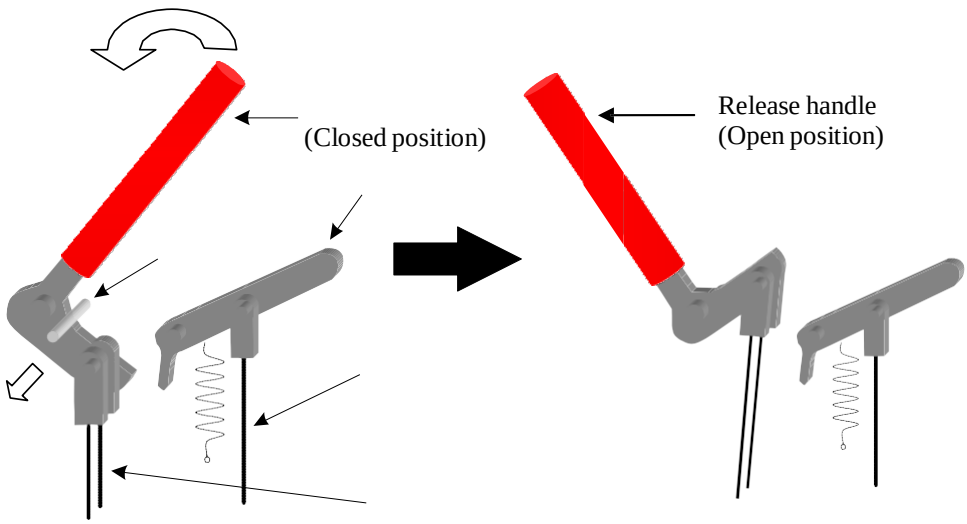


Fig. 5.3.2 Operation procedure of the release handle

5.4 Hydrostatic interlock unit

5.4.1 Structure and parts name

Structure and parts names of the hydrostatic interlock unit are shown in figures 5.4.1.1 and 5.4.1.2.

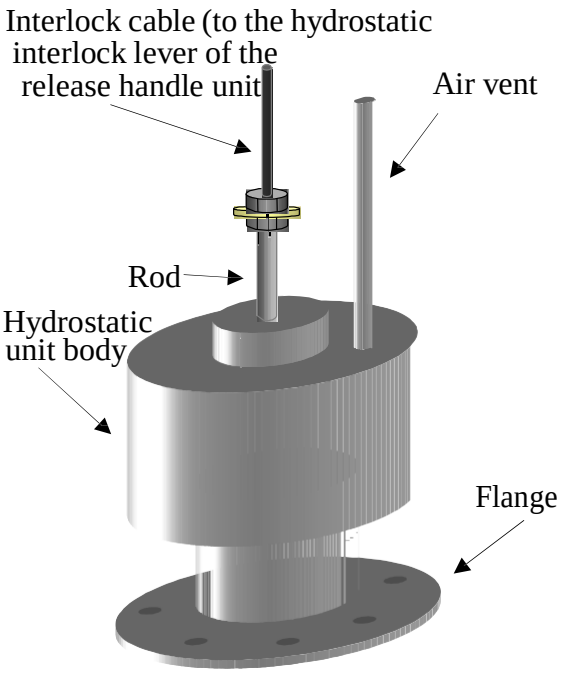


Fig. 5.4.1.1 Perspective of the hydrostatic interlock unit

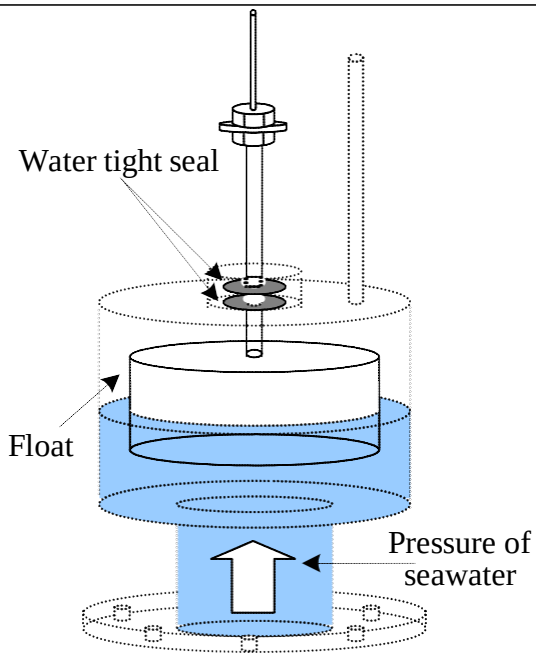


Fig. 5.4.1.2 Internal view of the hydrostatic interlock unit

5.4.2 Operation

When the lifeboat is fully waterborne, the hydrostatic interlock unit pushes up the interlock lever through the interlock cable by the water lifting the float and thus allowing the release handle to be operated. Contrary to this, operation of the release handle is not allowed by the hydrostatic interlock unit when the lifeboat is not fully waterborne.

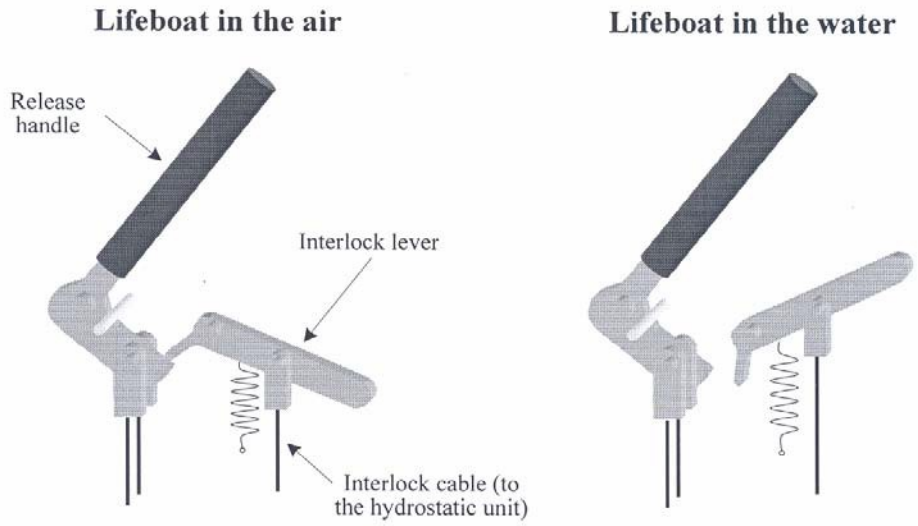


Fig. 5.4.2 Schematic diagram of the interlock

6 Inspection and maintenance

6.1 General precautions

SOLAS regulation III/20 requires that all life-saving appliances shall be in working order and ready for immediate use before the ship leaves port and at all times during the voyage. Lifeboats, launching appliances and release gear are required by SOLAS regulation III/20 to be inspected weekly and monthly according to the instructions for on-board maintenance complying with the requirements of SOLAS regulation III/36. Also, MSC.1/Circ.1206 describes more detailed procedures for periodic servicing and maintenance of lifeboats, launching appliances and release gear.

This manual includes only the weekly and monthly inspection and maintenance, which are conducted on board under the direct supervision of a senior ship's officer.

6.2 Inspection and maintenance of lifeboat and release gear system

6.2.1 Inspection and maintenance plan

Lifeboats should be inspected and maintained weekly and monthly in accordance with the following tables. The tables list the items to checked, the method of inspection, the procedures to be followed, and the frequency at which the items are to be attended to.

Table 6.2.1.1 covers the basic lifeboat (including release gear).
Table 6.2.1.2 covers the lifeboat engine.
Table 6.2.1.3 covers the electric parts.
Table 6.2.1.4 covers the lifeboat equipment.

Table 6.2.1.1 - Inspection procedure and maintenance plan for boat

Items		Method	Inspection procedure	Maintenance plan	
				Weekly	Monthly
Outside hull		Visual	Inspect for deformation or other defects. Inspect for peeling or any damage of retro-reflective material.	X	X
Outside canopy		Visual	Inspect for deformation or other defects.	X	X
Buoyant lifeline		Visual	Inspect for any damage.	X	X
Foldable canopy[*1]		Visual	Inspect for any damage to canopy.	X	X
Inside boat	GRP	Visual	Inspect for deformation or other defects.	X	X
	Wood	Visual	Inspect for crack or rot.	X	X
	Metal	Visual	Inspect for corrosion.	X	X
Drain valve		Visual	Inspect for any damage.	X	X
Release gear		Visual	Check resetting condition. Remove any dirt on moving parts.	X	X
Painter release device		Visual	Check resetting condition. Remove any dirt on moving parts.	X	X
All hatches		Visual Operation	Inspect for easy operation and good condition of gasket.	X	X
Window		Visual	Inspect for any crack on glass. Clean both sides of glass.		X
Steering gear		Visual	Inspect for any damage of rudder, tiller and emergency tiller.	X	X
		Operation	Inspect for good operation of main steering and connecting emergency tiller.	X	X
Stern tube		Visual	Inspect gasket and check for leakage of seawater.	[*2]	[*2]
Propeller and guard		Visual	Inspect for any damage.	X	X
Breather valve		Operation	Inspect operation of valve.		X
Water spray system	Clutch V-belt	Visual	Inspect for proper tension of V-belt. Inspect for any damage of belt.		X
		Operation	Inspect for proper operation.		X
	Spray pipe	Visual	Inspect for corrosion or any damage.		X
	Spray nozzle	Visual	Remove any deposit.		X
Air support system	High pressure pipe	Visual	Inspect for any damage.		X
	Regulator	Visual	Inspect for any damage.		X
	Air cylinder	Visual	Inspect for corrosion or any damage.		X

Note: 1 Applicable only to partially enclosed lifeboats.
2 When waterborne.

Table 6.2.1.2 - Inspection procedure and maintenance plan for engine

Items	Method	Inspection procedure	Maintenance plan	
			Weekly	Monthly
Engine	Visual	Check in good condition.		X
	Operation	Start and operate the engine. Check operation of throttle. Check operation of clutch.	X	X
Lubricating oil	Visual	Check an amount of oil.		X
	Visual	Check viscosity of oil with finger and ensure it's not dirty.		X
Fuel oil tank	Visual	Check securing condition of the tank (corrosion or leakage and connecting parts). Check an amount of fuel oil.		X
Fuel oil pipe	Visual	Check any leakage on connecting parts.		X
Water cooler	Visual	Check an amount of fresh water.		X
Cooling water pipe	Visual	Check any leakage on pipe.		X
Starter switch	Operation	Check operating properly.	X	X
Glow lamp	Operation	Check light on when pre-heating.	X	X
Tachometer	Operation	Check proper indication of revolution.	X	X
Oil pressure warning lamp, Charge lamp	Operation	Check proper light on or light off condition.	X	X
Stop wire	Operation	Stop the engine.	X	X

Table 6.2.1.3 - Inspection procedure and maintenance plan for electric parts

Items	Method	Inspection procedure	Maintenance plan	
			Weekly	Monthly
Battery	Visual	Check lead wire.		X
	Measure	Measure voltage of battery. When voltage is low, charge battery.		X
Inside lamp	Operation	Check light on.		X
Canopy lamp	Operation	Check light on.		X
Search light	Operation	Check light on.		X
Electric wiring	Visual	Check any defects on wiring.		X

Table 6.2.1.4 - Inspection procedure and maintenance plan for lifeboat equipment

Check for condition, quantity and expiry date where applicable

No.	Items	Maintenance plan	
		Weekly	Monthly
1	Oars		X
2	Thole pins or crutches		X
3	Boat hooks		X
4	Buoyant bailer		X
5	Buckets		X
6	Survival manual	X	X
7	Compass		X
8	Sea-anchor		X
9	Painters		X
10	Hatchets		X
11	Watertight receptacle and fresh water		X
12	Dipper with lanyard		X
13	Graduated drinking vessel		X
14	Food ration in watertight container		X
15	Rocket parachute flare		X
16	Hand flare		X
17	Buoyant smoke signal		X
18	Waterproof electric torch		X
19	One daylight signalling mirror		X
20	One copy of life-saving signals	X	X
21	One whistle		X
22	A first-aid kit		X
23	Anti-seasickness medicine		X
24	One seasickness bag for each person		X
25	A jack knife		X
26	Three tin openers		X
27	Two buoyant rescue quoits		X
28	A manual pump	X	X
29	One set of fishing tackle		X
30	Portable fire-extinguishing equipment		X
31	A radar reflector		X
32	Thermal protective aids		X
33	Compartments for storage		X
34	A means for collecting rainwater		X
35	A boarding ladder		X
36	Seat belts		X
37	Instructions of immediate action	X	X
38	Water resistant instructions	X	X

6.2.2 On board maintenance procedures

6.2.2.1 General

As a result of inspection, any defective parts should be repaired in accordance with following procedures. Any shortage of quantity should be supplemented to the correct number. Defective parts other than the following should be recorded along with their details and ordered for maintenance and repair by the manufacturers.

6.2.2.2 Boat

6.2.2.2.1 Rust on metal parts

Give anti-rusting treatment according to degree of damage, or replace if significantly wasted.

6.2.2.2.2 Damage of fabric

Repair fabric products by same material according to degree of damage.

6.2.2.2.3 Gasket

Repair with adhesive sealant according to degree of damage.

6.2.2.2.4 Drain valve

Remove any dirt and check correct operation.

6.2.2.2.5 Water spray system

Remove any deposit from spray nozzles. Tighten up pipe connecting parts when any leakage was noted. Adjust to proper tension on V-belt.

6.2.2.3 Engine

6.2.2.3.1Oil coating and filling

When any rust exists, remove rust and coat with machine oil. Rotating parts should be filled with lubricating oil.

6.2.2.3.2 Operating test

An operational test of the engine should be carried out on board the ship and in the afloat condition after launching at an appropriate opportunity to check the running condition. After the operational test, ensure that the valves for the cooling water line are opened and flushed with fresh water and drained completely.

6.2.2.4 Electric parts

6.2.2.4.1 Battery

Fill up battery with electrolyte if level is below the designated position. Tighten up electric terminal if it is loose.

6.3 Inspection and maintenance of launching appliances (davits and winches)

6.3.1 Inspection and maintenance plan

Launching appliances should be inspected and maintained weekly and monthly in accordance with the following tables. The tables list the items to checked, the method of inspection, the procedure to be followed, and the frequency at which the items are to be attended to.

Table 6.3.1.1 covers the davit.
Table 6.3.1.2 covers the winch.
Table 6.3.1.3 covers the electric parts.

Table 6.3.1.1 - Inspection procedure and maintenance plan for davit

Items	Method	Inspection procedure	Maintenance plan	
			Weekly	Monthly
Frame	Visual	Check corrosion, deformation and depression.	X	X
Davit arms	Visual	Check corrosion, deformation and depression.	X	X
	Operation	Moving out from stowed position.	X	
	Operation	Turning out from stowed position.		X
Sheave, suspension block	Visual	Check wear and corrosion.		X
	Operation	Check moving condition.	X	X
	Lubricate	Lubricate/grease.		X
Hinge pin, sheave pin	Lubricate	Lubricate/grease.		X
Davit arm stopper and trigger hook	Visual	Check wear and corrosion.	X	X
	Operation	Check moving condition.	X	X
	Lubricate	Lubricate/grease.		X
Boat fall, Turn buckle	Visual	Check wear, breakage of wire and corrosion.		X
	Lubricate	Lubricate/grease.		X
	Turn ends	Turn ends of boat fall (2.5 years).		
	Replacing	Replacing boat fall (5 years).		
Lashing wire rope	Visual	Check wear, corrosion and looseness.	X	X
Deck operation device	Operation	Check moving condition.		X
	Lubricate	Lubricate/grease.		X
Remote control wire	Visual	Check wear and corrosion.	X	X
	Operation	Check moving condition.		X
	Lubricate	Lubricate/grease.		X
Boat chock	Visual	Check wear and corrosion.	X	X

Table 6.3.1.2 - Inspection procedure and maintenance plan for winch

Items	Method	Inspection procedure	Maintenance plan	
			Weekly	Monthly
Gear box, gear, bearing, oil seal	Visual	Check level and deterioration of lubricating oil.		X
	Operation	Check unusual noise.		X
Brake system, Centrifugal brake	Visual	Check corrosion or any defects.	X	X
Wire end cotter	Visual	Check looseness.		X
Brake lever	Visual	Check corrosion or any defects.	X	X
	Operation	Check operating condition.	X	X
Speed change lever	Lubricate	Lubricate/grease.	X	X

Table 6.3.1.3 - Inspection procedure and maintenance plan for electric parts

Items	Method	Inspection procedure	Maintenance plan	
			Weekly	Monthly
Electric motor	Visual	Check wiring.	X	X
	Operation	Check normal operation.		X
Limit switch	Visual	Check wiring.	X	X
	Operation	Check normal operation.		X
	Lubricate	Lubricate/grease.		X
Push-button switch box and cable	Visual	Check wiring and other defects.	X	X
	Operation	Check normal operation.		X
Start panel	Visual	Check wiring and other defects.	X	X
	Operation	Check normal operation.		X

6.3.2 On-board maintenance procedure

6.3.2.1 General

As a result of inspection, any defective parts should be repaired in accordance with following procedures. Any shortage of quantity should be supplemented to correct number. Defective parts other than the followings should be recorded along with their details and ordered for maintenance and repair by the manufacturers.

6.3.2.2 Wire rope

Wire ropes should be changed in the following cases:

.1 break of elemental wire was observed;

.2 7% reduction of nominal diameter was observed;

.3 kink or looseness of ply was observed; or

.4 erosion/corrosion was observed.

6.3.2.2.2 Check fixing condition of wire ropes.

6.3.2.2.3 Change the boat falls within an appropriate period.

6.3.2.2.4 Adjust the length of boat falls as necessary so that the clearances between the davit arm and davit arm stopper at fore and aft are almost the same.

6.3.2.2.5 Ensure that material and diameter of suspension links are as specified by the release gear manufacturer.

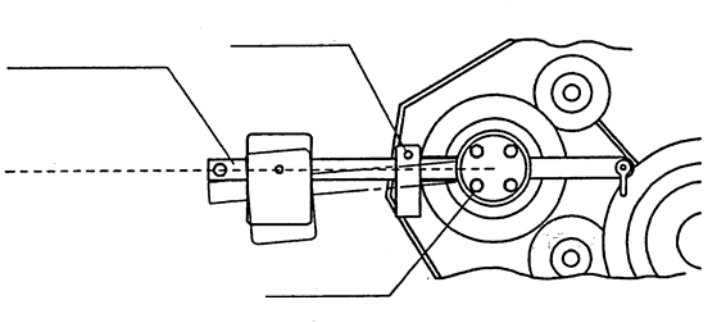
6.3.2.3 Boat winch

6.3.2.3.1 Prior to commencement of the maintenance work for the winch, the boat should be secured to prevent movement.

6.3.2.3.2 Oil should be checked and changed if discoloured. In case that oil level is low, oil should be added until the its surface comes to the designated level in the oil gauge.

6.3.2.3.3 Surfaces of each gear inside the gear box should be checked. In case that a defect is found on a surface of gear, the gear box should be replaced or repaired.

6.3.2.3.4 In case that the angle of brake lever has dropped due to abrasion of the brake lining, the angle of the brake lever should be adjusted by loosening the bolts, adjusting the angle and tightening the bolts again.



6.3.2.4 Greasing

6.3.2.4.1 Lubrication is essential for the function of the davit and winch and regular checking is necessary. Greasing also should be regularly conducted. For appropriate greasing, the detailed structure of the davit and winch and the functions of their parts should be understood.

6.3.2.4.2 All grease nipples of the davit should be greased at least once a month.

6.3.2.4.3 Gear oil inside the boat winch should regularly be checked regarding amount, change of colour and mixture of moisture.

6.3.2.4.4 Wire rope oil/grease should be regularly checked to prevent loss of oil/grease. Wire rope should be oiled or greased every two months in general.

Part II. INTERIM RECOMMENDATION ON CONDITIONS FOR AUTHORIZATION OF SERVICE PROVIDERS FOR LIFEBOATS, LAUNCHING APPLIANCES AND ON-LOAD RELEASE GEAR (Reference: IMO MSC.1/Circ. 1277, 23 May 2008)

1 The shipowners and the ship masters shall ensure that the thorough examination, operational testing, repair, and overhaul of lifeboats, launching appliances and on-load release gear are carried out in accordance with SOLAS regulation III/20 by service providers authorized by the Department of Marine Administration that are qualified in these operations for each make and type of equipment for which they provide the service. Such qualification should include, as a minimum:

.1 employment and documentation of personnel certified in accordance with a recognized national, international or industry standard as applicable, or an equipment manufacturer's established certification program. In either case, the certification program should be based on the guidelines in the appendix for each make and type of equipment for which service is to be provided;

.2 availability of sufficient tools, and in particular any specialized tools specified in the equipment manufacturer's instructions, including portable tools as needed for work to be carried out on board ship;

.3 access to sufficient materials, spare parts and accessories as specified by the equipment manufacturer for repairing lifeboats, launching appliances and on-load release gear, as applicable;

.4 for servicing and repair work involving disassembly or adjustment of on-load release mechanisms, availability of the equipment manufacturer's specifications, and genuine replacement parts as specified or supplied by the equipment manufacturer; and

.5 a documented quality system, to include at least the following:

.1 code of conduct for the relevant activity;

.2 maintenance and calibration of equipment;

.3 training programmes for personnel;

.4 supervision and verification to ensure compliance with operational procedures;

.5 recording and reporting of information;

.6 quality management of subsidiaries and agents;

.7 job preparation; and

.8 periodic review of work process procedures, complaints, corrective actions and issuance, maintenance and control of documents.

A documented quality system complying with the most current version of the ISO 9000 series and including the above items, would be considered acceptable.

2 The Department of Marine Administration will arrange for regular inspections of service providers within its own country to ensure that work continues to be carried out based on this interim recommendation, and will withdraw the authorization of service providers who are not in compliance. For service providers situated in other countries, the Department of Marine Administration may accept or recognize service providers authorized, checked or inspected by surveyors nominated for the purpose or by recognized organizations or by other SOLAS Contracting Governments.

3 The Department of Marine Administration hereby advises that information regarding authorized service providers for lifeboats, launching appliances and on-load release gear is made available to mariners.

4 The Department of Marine Administration will take measures which are considered appropriate to ensure that national manufacturers of equipment certified under SOLAS chapter III for installation and use onboard ships undertake to ensure that equipment, instructions, specialised tools, spare parts, training and accessories, as required, are available to independent service providers in a timely and cost effective manner.

5 In cases where an equipment manufacturer is no longer in business or no longer provides technical support, the Department of Marine Administration may authorize service providers for the equipment on the basis of prior authorization for the equipment and/or long term experience and demonstrated expertise as an authorized service provider.

6 The contents of this interim recommendation apply equally to manufacturers when they are acting as service providers.

APPENDIX

GUIDELINES FOR CERTIFICATION OF PERSONNEL FOR SERVICING AND MAINTENANCE OF LIFEBOATS, LAUNCHING APPLIANCES AND ON-LOAD RELEASE GEAR

General

1 The objective of these Guidelines is to establish standards for certification of personnel for servicing and maintenance of lifeboats, launching appliances and on-load release gear, based on annex 1 to MSC.1/Circ.1206.

2 Personnel for the work specified in paragraph 12 of annex 1 to MSC.1/Circ.1206 should be certified in accordance with a certification programme based on these Guidelines.

Education and Training

3 Education and training for initial certification of personnel should address, as a minimum:

.1 causes of lifeboat accidents;

.2 relevant rules and regulations, including international conventions;

.3 design and construction of lifeboats, including on-load release gear and launching appliances;

.4 education and practical training in the procedures specified in annex 1 of MSC.1/Circ.1206 for which certification is sought;

.5 detailed procedures for thorough examination, operational testing, repair and overhaul of lifeboat, launching appliances and on-load release gear, as applicable; and

.6 procedures for issuing a report of service and statement of fitness for purpose based on MSC.1/Circ.1206 (annex 1, paragraph 15).

4 The education and training for the personnel should include practical technical training on actual inspection and maintenance using the equipment (lifeboats, launching appliances and/or on-load release gear) for which the personnel are to be certified. The technical training should include disassembly, reassembly, correct operation and adjustment of the equipment. Classroom training should be supplemented by field experience in the operations for which certification is sought, under the supervision of an experienced senior certified person.

5 Prior to issuance of certification, a competency assessment should be satisfactorily completed, using the equipment for which the personnel are to be certified.

Terms of validity of certificates and update training

6 Upon completion of training and competency assessment, a certificate should be issued defining the level of qualification and the scope of the certification (e.g., makes and types of

equipment). The expiry date should clearly be written on the certificate. The expiry date should be within three years from the date of issuance of the certificate.

7 A competency assessment, and refresher training as appropriate, on the basis of that assessment, should be conducted to renew the certification.

Part III. MEASURES TO PREVENT ACCIDENTS WITH LIFEBOATS (Reference: IMO MSC.1/Circ. 1206/ Rev. 1, 11 June 2009)

1 The Maritime Safety Committee, at its eighty-first session (10 to 19 May 2006), recalled that at its seventy-fifth session (15 to 24 May 2002), it had considered the issue of the unacceptably high number of accidents with lifeboats in which crew were being injured, sometimes fatally, while participating in lifeboat drills and/or inspections, and noted that most accidents fell under the following categories:

.1 failure of on-load release mechanism;

.2 inadvertent operation of on-load release mechanism;

.3 inadequate maintenance of lifeboats, davits and launching equipment;

.4 communication failures;

.5 lack of familiarity with lifeboats, davits, equipment and associated controls;

.6 unsafe practices during lifeboat drills and inspections; and

.7 design faults other than on-load release mechanisms.

2 Pending further consideration of the problem, the Committee approved MSC/Circ.1049 on Accidents with lifeboats, to draw the attention of manufacturers, shipowners, crews and classification societies to the personal injury and loss of life that may follow inadequate attention to the design, construction, maintenance and operation of lifeboats, davits and associated equipment and urged all concerned to take necessary action to prevent further accidents with *lifeboats. The Department of Marine Administration hereby:*

.1 brings the circular to the attention of relevant industry organizations, manufacturers, shipowners, crews and classification societies;

.2 takes the necessary action to prevent further accidents with lifeboats pending the development of appropriate IMO guidance;

.3 advises the shipowners and the ship masters who shall ensure that:

.3.1 on-load release equipment used on ships flying their flag is in full compliance with the requirements of paragraphs 4.4.7.6.2.2 to 4.4.7.6.5 of the LSA Code;

.3.2 all appropriate documentation for the maintenance and adjustment of lifeboats, launching appliances and associated equipment is available on board;

.3.3 personnel undertaking inspections, maintenance and adjustment of lifeboats, launching appliances and associated equipment are fully trained and familiar with these duties;

.3.4 maintenance of lifeboats, launching appliances and associated equipment is carried out in accordance with approved established procedures;

.3.5 lifeboat drills are conducted in accordance with SOLAS regulation III/19.3.3 for the purpose of ensuring that ship's personnel will be able to safely embark and launch the lifeboats in an emergency;

.3.6 the principles of safety and health at work apply to drills as well;

.3.7 personnel undertaking maintenance and repair activities are appropriately qualified;

.3.8 hanging-off pennants should only be used for maintenance purposes and not during training exercises;

.3.9 all tests required for the design and approval of life-saving appliances are conducted rigorously, according to the Guidelines developed by the Organization, in order to identify and rectify any design faults at an early stage;

.3.10 the equipment is easily accessible for inspections and maintenance and is proven durable in harsh operational conditions, in addition to withstanding prototype tests; and

.3.11 the approving authorities or bodies pay close attention to proper workmanship and state-of-the-art possibilities when assessing equipment for approval; and

.4 encourages shipowners, when undertaking maintenance and repair activities, to employ qualified personnel, preferably certified by the manufacturer.

3 The shipowners and the ship masters are further advised, while enforcing the provisions of SOLAS regulation IX/4.3, to ensure that the above issues are addressed through the Safety Management System of the company, as appropriate.

4 The Committee further recalled that, at its seventy-seventh session (28 May to 6 June 2003), recognizing the experience gained since the approval of the Guidelines on inspection and maintenance of lifeboat on-load release gear (MSC/Circ.614) at its sixty-second session (24 to 28 May 1993), and that the implementation of expanded and improved guidelines could contribute towards a reduction of the incidence of accidents with lifeboats, it had approved the Guidelines for periodic servicing and maintenance of lifeboats, launching appliances and on-load release gear (MSC/Circ.1093), superseding MSC/Circ.614. Taking into account subsequent amendments to SOLAS chapter III and the LSA Code, and having considered proposals by the fiftieth session of the Sub-Committee on Fire Protection, the Committee approved amendments to the Guidelines, and further noted that the guidance developed for lifeboats could also apply to the periodic servicing and maintenance of liferafts, rescue boats and fast rescue boats and their launching appliances and on-load release gear.

5 The Committee further recalled that, at its seventy-ninth session (1 to 10 December 2004), it had endorsed the intention of the Sub-Committee on Ship Design and Equipment, in cooperation with the Sub-Committee on Standards of Training and Watchkeeping, to develop further IMO guidance as envisioned in MSC/Circ.1049 and, accordingly, approved the Guidance on safety during abandon ship drills using lifeboats (MSC/Circ.1136), as set out in annex 2. The Committee further recalled that the Guidance developed for lifeboats has relevance, in general, for emergency drills with other life-saving systems and should be taken into account when such drills are conducted. In connection with MSC/Circ.1136, and recognizing the need to provide a basic outline of essential steps to safely carry out simulated launching of free-fall lifeboats in accordance with SOLAS regulation III/19.3.3.4, and having considered proposals by the forty-seventh session of the Sub-Committee on Design and Equipment, the Committee further approved the Guidelines for simulated launching of free-fall lifeboats (MSC/Circ.1137), as set out in the appendix to annex 2.

6 Having considered the need to update several of the circulars discussed above, and having considered proposals by the fiftieth session of the Sub-Committee on Fire Protection to consolidate the numerous circulars on the subject of measures to prevent accidents with lifeboats in order to better serve the mariner, the Committee approved Guidelines for periodic servicing and maintenance of lifeboats, launching appliances and on-load release gear and Guidelines on safety during abandon ship drills using lifeboats, as set out in annexes 1 and 2, respectively, to MSC.1/Circ.1206.

7 The Maritime Safety Committee, at its eighty-sixth session (27 May to 5 June 2009), approved amendments to the aforementioned Guidelines (annexes 1 and 2 to MSC.1/Circ.1206) concerning inspection and maintenance of lifeboats, launching appliances and on-load release gear, following the recommendations made by the Sub-Committee on Ship Design and Equipment, at its fifty-second session. The revised Guidelines are set out in annexes 1 and 2 to this circular.

8 As advised by the IMO Maritime Safety Committee, the Department of Marine Administration hereby gives immediate effect to the annexed Guidelines bringing them to the attention of shipowners, ship operators, ship-vetting organizations, ship personnel, surveyors, manufacturers and all others concerned with the inspection and maintenance of lifeboats, liferafts, rescue boats and fast rescue boats and their launching appliances and on-load release gear.

9 The circular IMO MSC.1/Circ. 1206/ Rev. 1, 11 June 2009 supersedes MSC/Circ.1049, MSC/Circ.1093, MSC/Circ.1136, MSC/Circ.1137 and MSC.1/Circ.1206.

ANNEX 1

GUIDELINES FOR PERIODIC SERVICING AND MAINTENANCE OF LIFEBOATS, LAUNCHING APPLIANCES AND ON-LOAD RELEASE GEAR

General

1 The objective of these Guidelines is to establish a uniform, safe and documented performance of periodic servicing and maintenance of lifeboats, launching appliances and on-load release gear.

2 These Guidelines relate to the application of the ISM Code to periodic servicing and maintenance of lifeboat arrangements and should therefore be reflected in procedures developed for a ship under that Code.

3 The general principle in these Guidelines may also be applied for the periodic servicing and maintenance of liferafts, rescue boats and fast rescue boats and their launching appliances and release gear.

4 Detailed guidance regarding some procedures covered by these Guidelines is provided in the appendix.

SOLAS regulations

5 These Guidelines relate to the requirements contained in:

.1 SOLAS regulation III/20 – Operational readiness, maintenance and inspections; and

.2 SOLAS regulation III/36 – Instructions for onboard maintenance.

Responsibility

6 The company* is responsible for servicing and maintenance on board its ships in accordance with SOLAS regulation III/20 and for the establishment and implementation of health, safety and environment (HSE) procedures covering all activities during servicing and maintenance.

7 The personnel carrying out servicing and maintenance are responsible for the performance of the work as authorized in accordance with the system specified in paragraph 10.

8 The above personnel are also responsible for complying with HSE instructions and procedures.

9 Service providers carrying out the thorough examination, operational testing, repair and overhaul of lifeboats, launching appliances and on-load release gear should be authorized in accordance with MSC.1/Circ.1277.

* For the purpose of these Guidelines, company is as defined in SOLAS regulation IX/1.2.

Certification

10 Where these Guidelines call for certification of servicing personnel, such certification should be issued in accordance with an established system for training and authorization in accordance with MSC.1/Circ.1277.

Qualification levels

11 Weekly and monthly inspections, and routine maintenance as specified in the equipment maintenance manual(s), should be conducted under the direct supervision of a senior ship's officer in accordance with the maintenance manual(s).

12 All other inspections, servicing and repair should be conducted by the manufacturer's representative or other person appropriately trained and certified for the work to be done in accordance with MSC.1/Circ.1277.

Reports and records

13 All reports and checklists should be correctly filled out and signed by the person who carries out the inspection and maintenance work and should also be signed by the company's representative or the ship's master.

14 Records of inspections, servicing, repairs and maintenance should be updated and filed on board the ship.

15 When repairs, thorough examinations and annual servicing are completed, a statement confirming that the lifeboat arrangements remain fit for purpose should be promptly issued by the service provider who performed the work.

APPENDIX

SPECIFIC PROCEDURES FOR MAINTENANCE AND SERVICING

1 GENERAL

1.1. Any inspection, servicing and repair should be carried out according to the maintenance manuals and associated technical documentation developed by the manufacturer or an alternative body authorized in accordance with MSC.1/Circ.1277.

1.2 A full set of maintenance manuals and associated technical documentation as specified in 1.1 should be available on board for use in all operations involved in the inspection, maintenance, adjustment and re-setting of the lifeboat and associated equipment, such as davits and release gear.

1.3 The maintenance manuals and associated technical documentation as specified in 1.1 should include the following items as a minimum and should be periodically reviewed and updated as necessary.

2 ANNUAL THOROUGH EXAMINATION

2.1 As items listed in checklists for the weekly/monthly inspections also form the first part of the annual thorough examination, when carrying out this examination the inspection of these items should be performed by the ship's crew in the presence of the manufacturer's representative or other person appropriately trained and certified for the work to be done in accordance with MSC.1/Circ.1277.

2.2. Inspection and maintenance records of inspections and routine maintenance carried out by the ship's crew and the applicable certificates for the launching appliances and equipment should be available.

Lifeboats

2.3 The following items should be examined and checked for satisfactory condition and operation:

.1 condition of lifeboat structure including fixed and loose equipment;

.2 engine and propulsion system;

.3 sprinkler system, where fitted;

.4 air supply system, where fitted;

.5 manoeuvring system;

.6 power supply system; and

.7 bailing system.

Release gear

2.4 The following should be examined for satisfactory condition and operation after the annual winch brake test with the empty boat, as required by 3.1:

.1 operation of devices for activation of release gear;

.2 excessive free play (tolerances);

.3 hydrostatic interlock system, where fitted;

.4 cables for control and release; and

.5 hook fastening.

Notes:

1 The setting and maintenance of release gear are critical operations with regard to maintaining the safe operation of the lifeboat and the safety of personnel in the lifeboat. All inspection and maintenance operations on this equipment should therefore be carried out with the utmost care.

2 No maintenance or adjustment of the release gear should be undertaken while the hooks are under load.

3 Hanging-off pennants may be used for this purpose but should not remain connected at other times, such as when the lifeboat is normally stowed and during training exercises.

4 The release gear is to be examined prior to its operational test. The release gear is to be re-examined after its operational test and the dynamic winch brake test. Special consideration should be given to ensure that no damage has occurred during the winch brake test, especially the hook fastening.

2.5 Operational test of on-load release function:

.1 position the lifeboat partially into the water such that the mass of the boat is substantially supported by the falls and the hydrostatic interlock system, where fitted, is not triggered;

.2 operate the on-load release gear;

.3 reset the on-load release gear; and

.4 examine the release gear and hook fastening to ensure that the hook is completely reset and no damage has occurred.

2.6 Operational test of off-load release function:

.1 position the lifeboat fully waterborne;

.2 operate the off-load release gear;

.3 reset the on-load release gear; and

.4 recover the lifeboat to the stowed position and prepare for operational readiness.

Note:

Prior to hoisting, check that the release gear is completely and properly reset. The final turning-in of the lifeboat should be done without any persons on board.

2.7 Operational test of free-fall lifeboat release function:

.1 engage the simulated launching arrangements as specified in the manufacturer's operating instructions;

.2 the operator should be properly seated and secured in the seat location from which the release mechanism is to be operated;

.3 operate the release mechanism to release the lifeboat;

.4 reset the lifeboat in the stowed configuration;

.5 repeat procedures referred to in .2 to .4 above, using the back-up release mechanism, when applicable;

.6 remove the simulated launching arrangements; and

.7 verify that the lifeboat is in the ready to launch stowed configuration.

Davit

2.8 The following items should be examined for satisfactory condition and operation:

.1 davit structure, in particular with regard to corrosion, misalignments, deformations and excessive free play;

.2 wires and sheaves, possible damages such as kinks and corrosion;

.3 lubrication of wires, sheaves and moving parts;

.4 functioning of limit switches;

.5 stored power systems; and

.6 hydraulic systems.

Winch

2.9 The following items should be examined for satisfactory condition and operation:

.1 open and inspect brake mechanism;

.2 replace brake pads, if necessary;

.3 remote control system;

.4 power supply system; and

.5 winch foundation.

3. DYNAMIC WINCH BRAKE TEST

Annual operational testing should preferably be done by lowering the empty boat. When the boat has reached its maximum lowering speed and before the boat enters the water, the brake should be abruptly applied.

The five-year operational test should be done by lowering the boat loaded to a proof load equal to 1.1 times the weight of the survival craft or rescue boat and its full complement of persons and equipment, or equivalent load. When the boat has reached its maximum lowering speed and before the boat enters the water, the brake should be abruptly applied.

Following these tests, the brake pads and stressed structural parts should be re-inspected.

Note:

In loading the boat for this test, precautions should be taken to ensure that the stability of the boat is not adversely affected by free surface effects or the raising of the centre of gravity.

4. OVERHAUL OF ON-LOAD RELEASE GEAR

Overhaul of on-load release gear includes:

.1 dismantling of hook release units;

.2 examination with regard to tolerances and design requirements;

.3 adjustment of release gear system after assembly;

.4 operational test as per above and with a load according to SOLAS regulation III/20.11.2.3; and

.5 examination of vital parts with regard to defects and cracks.

Note:

Non-destructive examination (NDE) techniques, such as dye penetrants (DPE), may be suitable.

ANNEX 2

GUIDELINES ON SAFETY DURING ABANDON SHIP DRILLS USING LIFEBOATS

1 GENERAL

1.1 Introduction

1.1.1 It is essential that seafarers are familiar with the life-saving systems on board their ships and that they have confidence that the systems provided for their safety will work and will be effective in an emergency. Frequent periodic shipboard drills are necessary to achieve this.

1.1.2 Crew training is an important component of drills. As a supplement to initial shore-side training, onboard training will familiarize crew members with the ship systems and the associated procedures for use, operation and drills. On these occasions, the objective is to develop appropriate crew competencies, enabling effective and safe utilization of the equipment required by the 1974 SOLAS Convention. The time limits set out in SOLAS for ship abandonment should be considered as a secondary objective when conducting drills.

1.2 Drill frequency

Experience has shown that holding frequent drills furthers the goals of making the crew familiar with the life-saving systems on board their ships and increasing their confidence that the systems will work and will be effective in an emergency. Drills give the crew opportunity to gain experience in the use of the safety equipment and in cooperation. The ability to cope with an emergency and handle the situation, if the ship needs to be abandoned, needs to be well rehearsed. However, frequent crew changes sometimes make it difficult to assure that all on board have had the opportunity to participate in drills if only the minimum required drills are conducted. Therefore, consideration needs to be given to scheduling drills as necessary to ensure all on board have an early opportunity to become familiar with the systems on board.

1.3 Drills must be safe

1.3.1 Abandon ship drills should be planned, organized and performed so that the recognized risks are minimized and in accordance with relevant shipboard requirements of occupational safety and health.

1.3.2 Drills provide an opportunity to verify that the life-saving system is working and that all associated equipment is in place and in good working order, ready for use.

1.3.3 Before conducting drills, it should be checked that the lifeboat and its safety equipment have been maintained in accordance with the ship’s maintenance manuals and any associated technical documentation, as well as noting all the precautionary measures necessary. Abnormal conditions of wear and tear or corrosion should be reported to the responsible officer immediately.

1.4 Emphasis on learning

Drills should be conducted with an emphasis on learning and be viewed as a learning experience, not just as a task to meet a regulatory requirement to conduct drills. Whether they are emergency drills required by SOLAS or additional special drills conducted to enhance the competence of the

crew members, they should be carried out at safe speed. During drills, care should be taken to ensure that everybody familiarizes themselves with their duties and with the equipment. If necessary, pauses should be made during the drills to explain especially difficult elements. The experience of the crew is an important factor in determining how fast a drill or certain drill elements should be carried out.

1.5 Planning and organizing drills

1.5.1 The 1974 SOLAS Convention requires that drills shall, as far as practicable, be conducted as if there was an actual emergency.* This means that the entire drill should, as far as possible, be carried out. The point is that, at the same time, it should be ensured that the drill can be carried out in such a way that it is safe in every respect. Consequently, elements of the drill that may involve unnecessary risks need special attention or may be excluded from the drill.

1.5.2 In preparing for a drill, those responsible should review the manufacturer's instruction manual to assure that a planned drill is conducted properly. Those responsible for the drill should assure that the crew is familiar with the guidance provided in the life-saving system instruction manual.

1.5.3 Lessons learned in the course of a drill should be documented and made a part of follow-up shipboard training discussions and planning the next drill session.

1.5.4 The lowering of a boat with its full complement of persons is an example of an element of a drill that may, depending on the circumstances, involve an unnecessary risk. Such drills should only be carried out if special precautions are observed.

2 ABANDON SHIP DRILLS

2.1 Introduction

It is important that the crew who operate safety equipment on board are familiar with the functioning and operation of such equipment. The 1974 SOLAS Convention requires that sufficiently detailed manufacturers' training manuals and instructions be carried on board, which should be easily understood by the crew. Such manufacturers' manuals and instructions should be accessible for everyone on board and observed and followed closely during drills.

2.2 Guidance to the shipowner

2.2.1 The shipowner should ensure that new safety equipment on board the company's ships has been approved and installed in accordance with the provisions of the 1974 SOLAS Convention and the International Life-Saving Appliances (LSA) Code.

2.2.2 Procedures for holding safe drills should be included in the Safety Management System (SMS) of the shipping companies. Detailed procedures for elements of drills that involve a special risk should be evident from workplace assessments adjusted to the relevant life-saving appliance.

* Refer to SOLAS regulation III/19.3.1.

2.2.3 Personnel carrying out maintenance and repair work on lifeboats should be qualified accordingly.*

2.3. Lifeboats lowered by means of falls

2.3.1. During drills, those responsible should be alert for potentially dangerous conditions and situations and should bring them to the attention of the responsible person for appropriate action. Feedback and improvement recommendations to the shipowner, the Administration and the system manufacturer are important elements of the marine safety system.

2.3.2 When performing drills with persons on board a lifeboat, it is recommended that the boat first be lowered and recovered without persons on board to ascertain that the arrangement functions correctly. In this case, the boat should then be lowered into the water with only the number of persons on board necessary to operate the boat.

2.3.3 To prevent lashings or gripes from getting entangled, proper release should be checked before swinging out the davit.

2.4 Free-fall lifeboats

2.4.1 The monthly drills with free-fall lifeboats should be carried out according to the manufacturer's instructions, so that the persons who are to enter the boat in an emergency are trained to embark the boat, to take their seats in a correct way and to use the safety belts; and also are instructed on how to act during launching into the sea.

When the lifeboat is free-fall launched as part of a drill, this should be carried out with the minimum personnel required to manoeuvre the boat in the water and to recover it. The recovery operation should be carried out with special attention, bearing in mind the high risk level of this operation. Where permitted by SOLAS, simulated launching should be carried out in accordance with the manufacturer's instructions, taking due note of the Guidelines for simulated launching of free-fall lifeboats at appendix.

* Refer to the Guidelines for periodic servicing and maintenance of lifeboats, launching appliances and on-load release gear (see annex 1).

APPENDIX

GUIDELINES FOR SIMULATED LAUNCHING OF FREE-FALL LIFEBOATS

1 Definition

Simulated launching is a means of training the crew in the free-fall release procedure of free-fall lifeboats and in verifying the satisfactory function of the free-fall release system without allowing the lifeboat to fall into the sea.

2 Purpose and scope

The purpose of these Guidelines is to provide a basic outline of essential steps to safely carry out simulated launching. These Guidelines are general; the lifeboat manufacturer's instruction manual should always be consulted before conducting simulated launching. Simulated launching should only be carried out with lifeboats and launching appliances designed to accommodate it, and for which the manufacturer has provided instructions. Simulated launching should be carried out under the supervision of a responsible person who should be an officer experienced in such procedures.

3 Typical simulated launching sequence

Check equipment and documentation to ensure that all components of the lifeboat and launching appliance are in good operational condition.

Ensure that the restraining device(s) provided by the manufacturer for simulated launching are installed and secure and that the free-fall release mechanism is fully and correctly engaged.

Establish and maintain good communication between the assigned operating crew and the responsible person.

Disengage lashings, gripes, etc., installed to secure the lifeboat for sea or for maintenance, except those required for simulated free-fall.

Participating crew board the lifeboat and fasten their seatbelts under the supervision of the responsible person.

All crew, except the assigned operating crew, disembark the lifeboat. The assigned operating crew fully prepares the lifeboat for free-fall launch and secures themselves in their seats for the release operation.

The assigned operating crew activates the release mechanism when instructed by the responsible person. Ensure that the release mechanism operates satisfactorily and, if applicable, the lifeboat travels down the ramp to the distance specified in the manufacturer's instructions.

Resecure the lifeboat to its stowed position, using the means provided by the manufacturer and ensure that the free-fall release mechanism is fully and correctly engaged.

Repeat procedures from 3.7 above, using the back-up release mechanism when applicable.
The assigned operating crew disembarks the lifeboat.

Ensure that the lifeboat is returned to its normal stowed condition.
Remove any restraining and/or recovery devices used only for the simulated launch procedure.

Part IV. CLARIFICATION OF SOLAS REGUILATION III/19 (Reference: IMO MSC.1/Circ. 1326, 11 June 2009)

1 The Maritime Safety Committee, at its eighty-sixth session (27 May to 5 June 2009), having considered a recommendation made by the Sub-Committee on Ship Design and Equipment, at its fifty-second session, agreed that there was a need to clarify the application of SOLAS regulation III/19.3.3.3.

2 SOLAS regulation III/19.3.3.3 requires each lifeboat to be launched, and manoeuvred in the water by its assigned operating crew, at least once every three months during an abandon ship drill. However, the regulation, whilst requiring each lifeboat to be manoeuvred in the water by its assigned operating crew, does not require the assigned operating crew to be on board when the lifeboat is launched.

3 The Committee, therefore, agreed that the assigned operating crew should not be required to be on board lifeboats during launching, unless the master, within the authority conferred to him by paragraph 5.5 of the ISM Code, considered, taking into account all safety aspects, that the lifeboat should be launched with the assigned operating crew on board.

4 The Department of Marine Administration Member Governments uses the above clarification when applying the requirements of SOLAS regulation III/19, and hereby brings it to the attention of all parties concerned and, in particular, port State control officers.

Part V. GUIDELINES FOR THE FITTING AND USE OF FALL PREVENTER DEVICES (FPDs) (Reference: IMO MSC.1/Circ. 1327, 11 June 2009)

1 The Maritime Safety Committee, at its eighty-sixth session (27 May to 5 June 2009), approved the Guidelines for the fitting and use of fall preventer devices (FPDs), set out in the annex, following the recommendations made by the Sub-Committee on Ship Design and Equipment, at its fifty-second session.

2 The use of FPDs should be considered as an **interim risk mitigation measure**, only to be used in connection with existing on-load release hooks, at the discretion of the master, pending the wide implementation of improved hook designs with enhanced safety features.

3 The Department of Marine Administration uses the annexed Guidelines when approving the use of fall preventer devices (FPDs), and hereby brings them to the attention of all parties concerned.

ANNEX

GUIDELINES FOR THE FITTING AND USE OF FALL PREVENTER DEVICES (FPDs)

1 Background

1.1 In 1986, on-load release hooks for lifeboats and rescue boats were made mandatory in the SOLAS Convention, in response to Norway's worst offshore accident in March 1980, when the **Alexander Kielland** platform in the North Sea Ekofisk field capsized, killing 123 of the 212 persons on board. These then new SOLAS requirements were considered an important step forward in lifeboat design.

1.2 Some deaths in that accident were attributed to the fact that the lifeboat had no means of release when its weight was on the hook and falls. Therefore, on-load release systems were seen to offer benefits.

1.3 Since the IMO requirements for all ships to be fitted with on-load release systems came into force, there have been a number of serious accidents during drills and servicing.

1.4 Many of these accidents were attributed to either lack of maintenance, poor design or inadequate training. Failures of equipment can result in the premature opening of the on-load hook mechanism, causing the lifeboat to fall from the davits unexpectedly, even with three safety interlocks provided for in the design.

1.5 A number of current designs of on-load release hooks are designed to open under the effect of the lifeboat's own weight and often need to be held closed by the operating mechanism. This means that any defects or faults in the operating mechanism, errors by the crew or incorrect resetting of the hook after being previously operated, can result in premature release.

1.6 A "Fall Preventer Device" (FPD) can be used to minimize the risk of injury or death by providing a secondary alternate load path in the event of failure of the on-load hook or its release mechanism or of accidental release of the on-load hook. However, FPDs should not be regarded as a substitute for a safe on-load release mechanism.

2 Design and operation of FPDs

2.1 *Locking pins*

The following points should be considered when utilizing locking pins as FPDs:

.1 existing on-load release hooks fitted to ships should **not** be modified by drilling to provide a locking pin insertion point, unless approved by the Administration in accordance with paragraph 4, as this may significantly reduce the strength of the hook;

.2 locking pins should have clear operational instructions located near the insertion point of the locking pin and be colour coded so that it is clear where the pins are to be inserted;

.3 locking pins should be designed so that they cannot be inadvertently inserted in the wrong place;

.4 locking pins should be confirmed to be in place prior to turning out the lifeboat and during descent to the water;

.5 strict procedures, including a warning notice at the release handle, should be in place to ensure that the locking pin is removed before the release mechanism is activated. The handle of the locking pin should be coloured red or a suitable contrasting safety colour and prominently marked with a warning that it must be removed before activating the release mechanism;

.6 the removal of the pin should be achievable quickly and easily without posing any risk to the operating crew designated to carry out the task once the lifeboat has reached the water;

.7 if the removal of the pins requires opening of the lifeboat hatch it should be readily achievable by the operating crew at each device from within the craft;

.8 once the on-load release hooks have been connected to recover the lifeboat, the locking pins should be re-inserted before the boat is hoisted clear of the water. The locking pins should be designed so that they do not interfere with either the lifting or re-stowing of the lifeboat into the davits; and

.9 where provided, fall preventer locking pins should not be used for any other purpose and should be fitted to the lifeboat at all times.

2.2 Strops or slings

Wires or chains should not be used as FPDs, as they do not absorb shock loads. The following points should be considered when synthetic strops or slings are used as FPDs:

.1 where FPDs are synthetic strops or slings and no modifications are required to the lifeboat, the on-load release hook or launching equipment, a functional test should be carried out. The functional test should demonstrate, to the satisfaction of the Administration, that the equipment performs without interfering in the operation of the lifeboat or launching equipment. Strops or slings should be of resilient fibre in construction;

.2 the strops or slings should be issued with an appropriate certificate documenting a tensile strength which provides for a factor of safety of at least six, based on the total weight of the lifeboat when loaded with its full complement of persons and equipment. The strops or slings should be inspected before use and thoroughly inspected by ship's crew every six months. The material of the strop or sling should be rot-proof, corrosion-resistant, not be unduly affected by seawater, oil or fungal attack, and UV resistant. The strops or slings should be permanently marked with the date of entry into service;

.3 strict procedures, including a warning notice at the release handle, should be in place to ensure that the strops or slings are removed before the release mechanism is activated;

.4 the attachment point of the strop or sling to the on-load release hook and the davit falls block should be clearly marked and designed so that any connection device such as shackles cannot be connected to either the wrong part of the block or the wrong part of the on-load release hook;

.5 the release of the strops or slings should be achievable quickly and easily without posing any risk to the operating crew designated to carry out the task once the lifeboat has reached the water. If the release of the strops or slings requires opening of the lifeboat hatch it should be readily achievable by the operating crew at each device from within the craft. Once detached, the strops or slings should not interfere with the operation of the on-load release gear or the propeller;

.6 once the on-load release hooks have been connected to recover the lifeboat, the strops or slings should be reattached to the lifeboat before the boat is hoisted clear of the water. The strops or slings should be designed so that they do not interfere with either the lifting or re-stowing of the lifeboat into the davits;

.7 a strop or sling used as an FPD should be sized and arranged to allow the transfer of load from the hook mechanism to the strop with minimal movement (drop) of the boat in the event of a release mechanism failure. Should a fall preventer strop or sling be subject to an unintentional dynamic shock loading, then the strop or sling should be replaced and the associated attachment points inspected. In such cases, the Administration should be informed as soon as possible and the master should provide a full report of the circumstances of the incident; and

.8 where provided, fall preventer strops or slings should not be used for any other purpose and should be fitted to the lifeboat at all times.

3 Drills, testing, inspections and maintenance of lifeboats and launching appliances

3.1 The ship's master or the officer in charge of any lifeboat lowering or lifting operation should ensure that, where provided, lifeboat FPDs are properly in place before commencing any drill, testing, inspection or maintenance where persons are in the lifeboat.

3.2 The ship's operating crew should be familiar with the operation of the FPD fitted to the lifeboat on their ship. The procedure to be followed should be contained in the ISM Code documentation and the ship's training manual.

3.3 Those conducting training drills and drafting ISM Code procedures should take into account that with certain types of ship such as oil, gas or chemical tankers it may not be possible to use an FPD in an abandon ship situation where the release mechanism of the device is not inside the lifeboat. In such cases, the master should take this into account when considering application of paragraphs 2.1.9 or 2.2.8. Where a different procedure is followed during routine drills compared with an abandon ship situation, this should be clearly described in the ISM Code documentation and training manual.

4 Modification of existing approved on-load hooks already fitted to a ship to incorporate FPDs

The shipowner or original equipment manufacturer should contact the Department of Marine Administration for approval before any modification, such as modifying existing lifeboats and hooks for oil and chemical tankers so that FPDs can be released from within the lifeboat, is made to a hook, lifeboat or davit to accommodate the use of FPDs. Any retesting of any equipment should be agreed and witnessed by the Department of Marine Administration or a recognized organization appointed by the Department of Marine Administration and documented in the relevant approval file.

Part VI. GUIDELINES FOR EVALUATION AND REPLACEMENT OF LIFEBOAT RELEASE AND RETRIEVAL SYSTEMS (Reference: IMO MSC.1/Circ. 1392, 27 May 2011)

1 The Maritime Safety Committee, at its eighty-ninth session (11 to 20 May 2011), approved the Guidelines for evaluation and replacement of lifeboat release and retrieval systems, set out in the annex, as per SOLAS regulation III/1.5, following the recommendations made by the Sub-Committee on Ship Design and Equipment, at its fifty-fifth session, and the *Ad Hoc* Working Group on Lifeboat Release Hooks (16 to 18 March 2011).

2 The Department of Marine Administration uses the annexed Guidelines when applying SOLAS regulation III/1.5, as adopted by resolution MSC.317(89), and hereby brings them to the attention of all parties concerned.

3 The shipowners and manufacturers of lifeboat release and retrieval systems are also strongly urged, pending the entry into force of SOLAS regulation III/1.5, to use the annexed Guidelines to evaluate existing lifeboat release and retrieval systems at the earliest available opportunity.*

4 The shipowners and the ship masters are strongly urged to ensure that all ships fitted with on-load release systems for lifeboats, are equipped with fall preventer devices as per paragraph 6 of these Guidelines at the earliest available opportunity.

5 As encouraged by the IMO Maritime safety Committee, the Department of Marine Administration considers the results of evaluations reported to the Organization by other Member Governments on types of existing lifeboat release and retrieval systems.

ANNEX

GUIDELINES FOR EVALUATION AND REPLACEMENT OF LIFEBOAT RELEASE AND RETRIEVAL SYSTEMS

General

1 New SOLAS regulation III/1.5, which is expected to enter into force on 1 January 2013, requires that for all ships, on-load release mechanisms* not complying with paragraphs 4.4.7.6.4 to 4.4.7.6.6 of the LSA Code, as amended by resolution MSC.320(89) (hereinafter called "the LSA Code"), be replaced or modified not later than the next scheduled dry-docking after 1 July 2014, but not later than 1 July 2019**.**

2 Considering that paragraphs 4.4.7.6.4 to 4.4.7.6.6 of the LSA Code represent important safety improvements, manufacturers should carry out a self assessment of their types of existing lifeboat release and retrieval systems in accordance with these Guidelines at the earliest available opportunity.

3 A recognized organization acting on behalf of the Department of Marine Administration, should carry out a design review to check that the type of existing lifeboat release and retrieval systems comply with paragraphs 4.4.7.6.4 to 4.4.7.6.6 of the LSA Code and should witness the performance test to check that it is performed in accordance with appendix 1 of these Guidelines. This evaluation should be completed not later than 1 July 2013 and the report should be submitted in accordance with paragraph 14 below.

4 A recognized organization acting on behalf of the Department of Marine Administration, should, when applying SOLAS regulation III/1.5, ensure that an evaluation of the type of existing lifeboat release and retrieval system is undertaken, for compliance with paragraphs 4.4.7.6.4 to 4.4.7.6.6 of the LSA Code, in accordance with these Guidelines.

5 A flowchart of the lifeboat release and retrieval system evaluation process, is set out in appendix 2.

6 On each ship, fall preventer devices in accordance with the Guidelines for the fitting and use of fall preventer devices (FPDs) (MSC.1/Circ.1327) should be employed for each existing lifeboat release and retrieval system until the system is:

.1 found compliant with the LSA Code; or

.2 modified and found compliant with the LSA Code; or

.3 found compliant with paragraphs 4.4.7.6.4 to 4.4.7.6.6 of the LSA Code and paragraphs 16 and 17 (overhaul examination) of these Guidelines; or

.4 modified and found compliant with paragraphs 4.4.7.6.4 to 4.4.7.6.6 of the LSA Code and paragraphs 16 and 17 (overhaul examination) of these Guidelines; or

.5 replaced by a new lifeboat release and retrieval system.

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* For the purpose of these Guidelines, the expression "on-load release mechanism" has been replaced by "lifeboat release and retrieval system" (see paragraph 9.1).

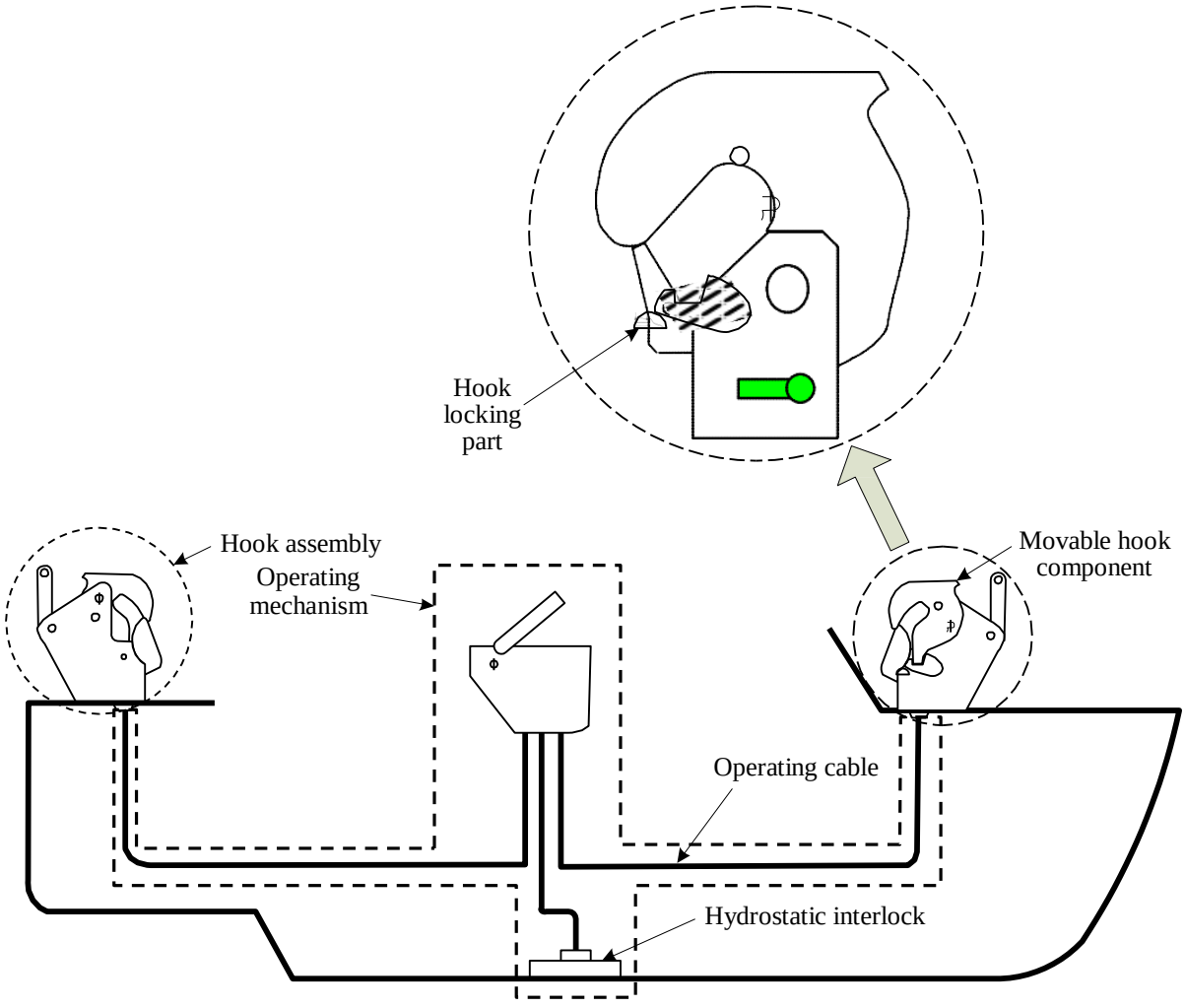
Modifications

7 A lifeboat release and retrieval system that has been determined to be non-compliant in accordance with these Guidelines may be modified to comply with the requirements of the revised paragraphs 4.4.7.6.4 to 4.4.7.6.6 of the LSA Code and the requirements of the existing applicable Code, provided that the modified release and retrieval system is evaluated in accordance with these Guidelines.

8 A type of lifeboat release and retrieval system that, after modification, complies with the requirements of the revised paragraphs 4.4.7.6.4 to 4.4.7.6.6 of the LSA Code and the requirements of the existing applicable Code should be identified as a system compliant after modification and reported as such. The report should include both the identification of the original type and the modified type.

Definitions

9 For the purpose of these Guidelines, the definitions given hereunder should apply, in accordance with the following figure.



Lifeboat release and retrieval system

9.1 Lifeboat release and retrieval system is the means by which the lifeboat is connected to, and released from, the lifeboat falls for lowering, launch and retrieval. It comprises the hook assembly and operating mechanism.

9.2 Hook assembly is the mechanism, attached to the lifeboat, which connects the lifeboat to the lifeboat falls.

9.3 Movable hook component is that part of the hook assembly in direct contact with the connection with the lifeboat falls which moves to enable release from the falls.

9.5 Hook locking part is the component(s) within a hook assembly which holds the movable hook component in the closed position until activated by the operating mechanism to release the hook. This activation may be performed through other components within the hook assembly.

9.6 Operating mechanism is the means by which the operator activates the opening, or release, of the movable hook component. It includes the operating handle, linkages/cables and hydrostatic interlock, if fitted.

9.7 Type, in relation to the design of a lifeboat release and retrieval system, means an identical lifeboat release and retrieval system of given safe working load, make and model (thus any change to the materials of construction, design arrangement or dimensions constitutes a change of type).

9.7 On-load release is the action of opening the lifeboat release and retrieval system whilst there is load on the hook assemblies.

9.8 Evaluation is a design review and a performance test of a type of lifeboat release and retrieval system.

9.9 ***Manufacturer,*** with respect to existing lifeboat release and retrieval systems, is:

.1 the original equipment manufacturer; or

.2 a manufacturer of lifeboat release and retrieval systems who has taken on the responsibility for a range or type of lifeboat release and retrieval system; or

.3 any other person or entity which has taken responsibility for a range or type of lifeboat release and retrieval system when the original manufacturer no longer exists or supports the equipment.

9.10 Modifications are changes to the design of an approved lifeboat release and retrieval system which may affect compliance with the original approval requirements or the prescribed conditions for the use of the product.

9.11 New lifeboat release and retrieval system is a lifeboat release and retrieval system that has been approved in accordance with paragraph 4.4.7.6 of chapter IV of the LSA Code, as amended by resolution MSC.320(89).

9.12 Existing lifeboat release and retrieval system is a lifeboat release and retrieval system that has not been approved in accordance with paragraph 4.4.7.6 of chapter IV of the LSA Code, as amended by resolution MSC.320(89).

9.13 Company means company as defined in SOLAS regulation IX/1.2.

Design review

10 Documentation and information for each type of lifeboat release and retrieval system should be submitted to the Administration, or recognized organization acting on its behalf, in order that an assessment can be carried out to determine compliance with paragraphs 4.4.7.6.4 to 4.4.7.6.6 of the LSA Code. The manufacturer should submit the approval certificate, along with all associated supporting design calculations, plans and testing documentation to the Administration or recognized organization acting on its behalf. The design information should include the specification and the installation instructions for the complete operating system as well as all safety instructions regarding the operating system and any interlocks provided. Any submission for testing of a lifeboat release and retrieval system that cannot be supported with the above-mentioned information should not be eligible for testing against the requirements of the LSA Code.

11 If the outcome of the design review is non-compliance with the applicable paragraphs of the LSA Code, the lifeboat release and retrieval system should be replaced or modified to be made compliant.

Performance test

12 After a successful completion of the design review, a performance test should be conducted by the manufacturer for each type of lifeboat release and retrieval systems for compliance with paragraphs 4.4.7.6.4 to 4.4.7.6.6 of the LSA Code, using the test specified in appendix 1 to these Guidelines. The performance test should be witnessed by the Administration or a recognized organization acting on its behalf.

13 Should any part of the lifeboat release and retrieval system fail at any stage during the test specified in paragraphs 1 to 4 of appendix 1, this type of lifeboat release and retrieval system should be deemed to be non-compliant and reported as such.

Reporting of the results of evaluation of existing lifeboat release and retrieval system

14 The Department of Marine Administration will report the results of each type of existing lifeboat release and retrieval system evaluation carried out in accordance with these Guidelines to the Organization, based on the reporting procedure, as set out in appendix 3.

15 Depending on the outcome of the evaluation, every lifeboat release and retrieval system should be categorized as being either compliant, compliant after modification or non-compliant. Thereafter:

.1 systems categorized as being compliant, or compliant after modification, may remain in service; and

.2 every system categorized as being non-compliant should be replaced with a new system or modified to be made compliant.

One-time follow-up overhaul examination

16 Not later than the first scheduled dry-docking after 1 July 2014, every lifeboat release and retrieval system of a type found to be compliant in respect of the existing lifeboat release and retrieval system evaluation should be subject to an overhaul examination according to annex 1 to the Measures to prevent accidents with lifeboats (MSC.1/Circ.1206/Rev.1) by the manufacturer or by one of their representatives. The examination also includes verification that

the system examined is of the same type as the system that passed the evaluation and is suitable for the ship.

17 The scope of the overhaul examination should also include a detailed assessment of the condition of the components of the lifeboat release and retrieval system to observe the extent of wear, corrosion, erosion and other types of material degradation that may have occurred. Upon satisfactory completion of the overhaul examination, the manufacturer or one of their representatives should issue a factual statement to confirm this, for retention on board.

Procedure for replacement of non-compliant lifeboat release and retrieval systems

18 The procedure outlined below should be followed in all cases where a lifeboat is to be fitted with replacement lifeboat release and retrieval systems with on-load release capability. It is noted that every lifeboat, complete with lifeboat release and retrieval system, is type-approved at manufacture and it is important to recognize that a lifeboat which is retro-fitted with a replacement lifeboat release and retrieval system to the satisfaction of the *Department of Marine Administration* should be regarded as offering a level of safety which is higher than that of the original installation.

19 Companies should, where possible, select replacement equipment acceptable to the lifeboat manufacturer. However, in cases where the lifeboat manufacturer is unable to offer a suitable replacement lifeboat release and retrieval system, the Company may select an alternative lifeboat release and retrieval system, with the agreement, if possible, of the lifeboat manufacturer.

20 The replacement equipment should be approved by the Department of Marine Administration or a recognized organization acting on its behalf, under the provisions of the LSA Code. Prior to the installation commencing, the Company should submit to the Department of Marine Administration, or a recognized organization acting on its behalf, for review and approval, as a minimum the following information:

.1 the proposed replacement equipment including approval certification;

.2 the engineering analysis of the replacement installation including:

.1 drawings of the original lifeboat release and retrieval system arrangement;

.2 detailed drawings showing clearly the proposed changes (e.g., position of suspension, lifeboat release and retrieval system, fixed structural connections of the release mechanism, link plates, including materials used for nuts and bolts with regard to strength and corrosion resistance); and

.3 if the drawings show that forces and/or force couples will change and/or the lifeboat release and retrieval system fixed structural connections of the release mechanism will change, calculation of static forces including a safety factor of 6, according to the LSA Code, from lifeboat release and retrieval system into lifeboat structure, including tension and shear forces in bolts, link plates, welds and keel shoe(s);

.3 considering that a lifeboat release and retrieval system does not consist just of the hook assemblies themselves, but also of release handles, cabling, etc., in the lifeboat, the evaluation of a replacement hook assembly other than that originally provided in the lifeboat should include such factors as loadings of the release handle on the console, efficiency of any hydrostatic interlock in light and

loaded conditions, whether the size/configuration of the replacement equipment would affect the stability or seating space of the lifeboat, and its compatibility with its launching appliance;

.4 amended operating and training manuals; and

.5 identification of the person(s) responsible for design appraisal, installation work and post-installation testing and evidence of their competence.

21 The Department of Marine Administration, or a recognized organization acting on behalf of the Department of Marine Administration, may allow that hook fixed structural connections of the release mechanism and supporting structure which are not made of material corrosion resistant in the marine environment, as required by paragraph 4.4.7.6.9 of the LSA Code, need not be replaced if they are in a good condition and installed in a sheltered position inside the lifeboat.

22 A copy of the engineering drawing(s) approved by the Department of Marine Administration, or a recognized organization acting on behalf of the Department of Marine Administration, should be used during installation and testing and retained on board.

23 The installation should be carried out by the manufacturer or by one of their representatives. All work carried out should be witnessed by the Department of Marine Administration, or a recognized organization acting on behalf of the Department of Marine Administration. Valid operating and safety instructions should be posted at the operating position and adjacent to the lifeboat release and retrieval system(s).

24 Post-installation testing should be carried out by the manufacturer or by one of their representatives and comprise the following:

.1 1.1 x load and simultaneous release test according to the Revised recommendation on testing of life-saving appliances (resolution MSC.81(70)), part 2, paragraph 5.3.1, or an equivalent method acceptable to the Administration;

.2 load test according to the Revised recommendation on testing of life-saving appliances (resolution MSC.81(70)), part 2, paragraph 5.3.4, as amended by resolution MSC.226(82), if the fixed structural connections of the release mechanism of the lifeboat is modified; and

.3 if the lifeboat is also a rescue boat and/or is installed on a cargo ship of 20,000 gross tonnage or above, the 5 knots installation test should be carried out, in accordance with the Revised recommendation on testing of life-saving appliances (resolution MSC.81(70)), part 2, paragraph 5.4.

25 All tests should be witnessed by the Department of Marine Administration, or a recognized organization acting on behalf of the Department of Marine Administration, which should also verify that the installation complies in all respects with the documentation submitted by the Company and approved by the Department of Marine Administration, or a recognized organization acting on behalf of the Department of Marine Administration.

26 Following completion of installation testing, the Department of Marine Administration, or a recognized organization acting on behalf of the Department of Marine Administration, will issue a Statement of Acceptance, using the template set out in appendix 4, to the Company, for retention on board.

APPENDIX 1

TEST REQUIREMENTS FOR THE EVALUATION OF LIFEBOAT RELEASE AND RETRIEVAL SYSTEMS

A release and retrieval system should be conditioned and tested as follows:

.1 the lifeboat release and retrieval system and the longest used connection cable/linkage associated with the system should be mounted and adjusted according to instructions from the original equipment manufacturer and then loaded to 100% of its safe working load and released. Load and release should be repeated 50 times. During the 50 releases, the lifeboat release and retrieval system should be released simultaneously from each fall to which it is connected without any binding or damage to any part of the lifeboat release and retrieval system. The system should be considered as "failed" if any failure during the conditioning or unintended release occurs when load is applied but the system has not yet been operated;

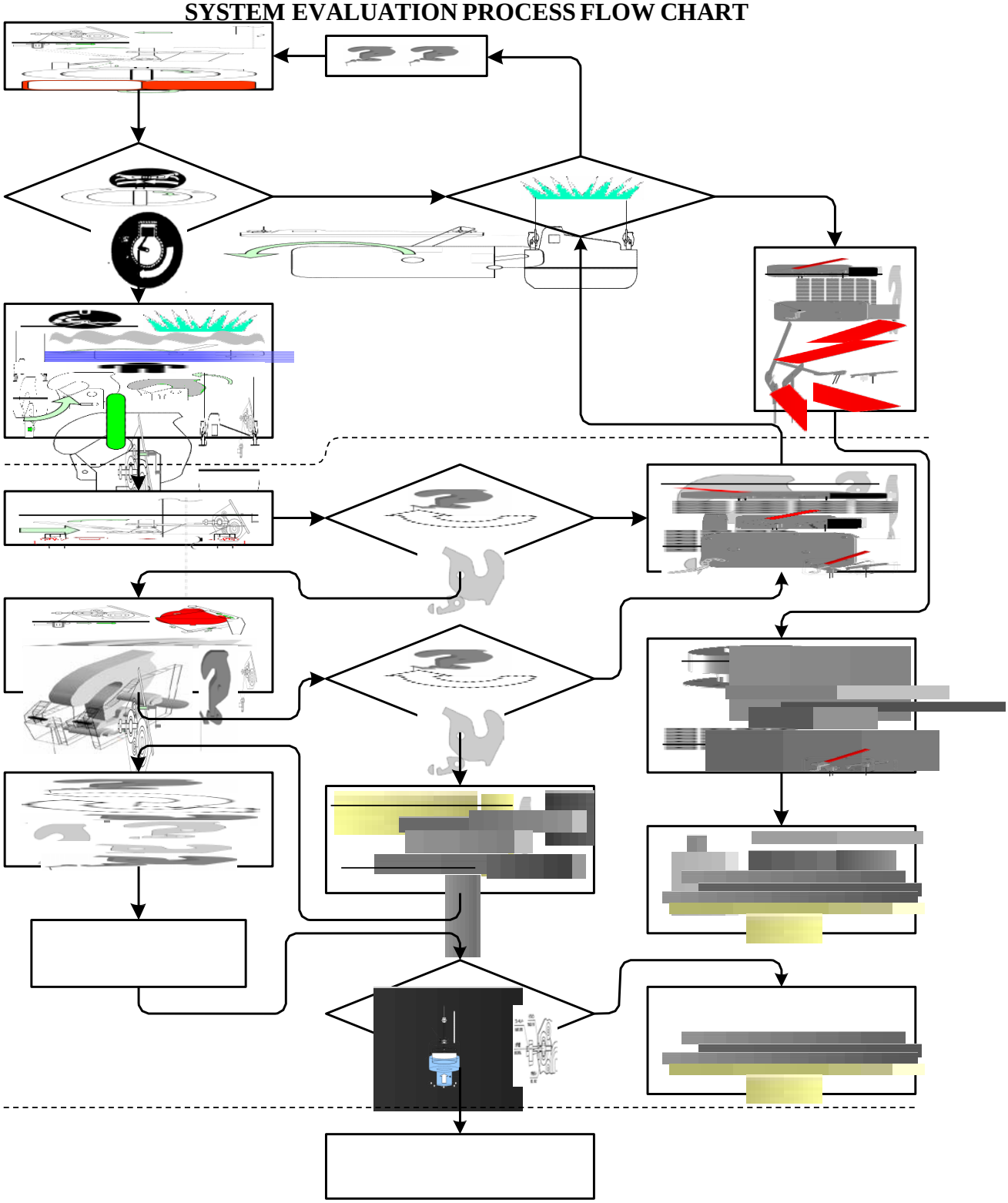
.2 the lifeboat release and retrieval system should then be disassembled, the parts examined and wear recorded. The release and retrieval system should then be reassembled;

.3 the hook assembly, whilst disconnected from the operating mechanism, should then be tested 10 times with cyclic loading from zero load to 1.1 times the safe working load, at a nominal 10 seconds per cycle; unless the release and retrieval system has been specifically designed to operate as an off-load hook with on-load capability using the weight of the boat to close the hook, in this case the cyclic load should be from no more than 1% to 1.1 times the SWL; and

.4 the cable and operating mechanism should then be reconnected to the hook assembly; and the lifeboat release and retrieval system should then be demonstrated to operate satisfactorily under its safe working load. The actuation force should be no less than 100 N and no more than 300 N, if a cable is used it should be the maximum length specified by the manufacturer, and secures in the same manner it would be secured in the lifeboat. The demonstration should verify that any interlocks, including hydrostatic interlocks, where fitted, indicators and handles are still functioning and are correctly positioned in accordance with the operation and safety instruction from the original equipment manufacturer.
The release and retrieval system is deemed to have passed the testing under this appendix when the tests have been conducted successfully. The system should be considered as "failed" if any failure during this test or any unintended release or opening occurs.

APPENDIX 2

EXISTING LIFEBOAT RELEASE AND RETRIEVAL SYSTEM EVALUATION PROCESS FLOW CHART



APPENDIX 3

INFORMATION ON THE EVALUATION OF EXISTING LIFEBOAT RELEASE AND RETRIEVAL SYSTEMS TO BE REPORTED

The following information should be provided for each lifeboat release and retrieval system:

Manufacturer's Details	**Name**
	Address
	E-mail address
Lifeboat release and retrieval system	**Type (see paragraph 9.6) and identification**
In case of modification	**Original type and identification**
	Details of modification
Specification of type (e.g., Maximum Safe Working Load (SWL))	
Details of the Administration, or recognized organization acting on its behalf, undertaking the evaluation of the lifeboat release and retrieval system	**Name**
	Address
	E-mail address
Evaluation report details	**No.**
	Date
Evaluation result	**Compliant / Non-compliant / Compliant after modification**
Report information	**Link to the relevant report (url)**
Reported by	**Name of the Administration**

APPENDIX 4

STATEMENT OF ACCEPTANCE OF THE INSTALLATION OF REPLACEMENT RELEASE AND RETRIEVAL SYSTEM TO AN EXISTING LIFEBOAT

Issued in accordance with the provisions of regulation I/5 of the International Convention for the Safety of Life at Sea (SOLAS), 1974, as amended, under the authority of [Administration][*]

Name of ship:
Port of registry:
IMO Number:

Lifeboat details:
Replacement release and retrieval system details:

Lifeboat identity	Lifeboat serial number	Release and retrieval system serial number (fwd)	Release and retrieval system serial number (aft)
No.1 (Stbd)			
No.2 (Port)			

The above release and retrieval system has been installed and tested under the supervision of the [Administration, or a recognized organization authorized to act on its behalf][*], as documented in Survey report no...; certificate no.... dated ... and [installation] drawing(s) no(s) ... dated ... .

This statement is to confirm that:

.1 The replacement release and retrieval system meets the relevant requirements of the LSA Code, chapter IV, section 4.4.7.6.

.2 The replacement release and retrieval system construction and the equipment of the above-mentioned ship was found to comply with the provisions of SOLAS regulation III/4 when tested in accordance with the Revised recommendation on testing of life-saving appliances (resolution MSC.81(70)), part 2, section 5.3.1. [The test required by paragraph 5.3.4 is waived as impracticable for this replacement procedure.][*]

.3 The validity of the relevant Safety Certificate is not affected by the installation of the replacement release and retrieval system.

.4 The installation of the replacement release and retrieval system offers a level of safety which is at least as effective as the original manufacturer's equipment.

The [Administration, or a recognized organization authorized to act on its behalf][*] certifies that this Statement of Acceptance augments and supersedes the affected sections of the original lifeboat approval certification. The statement must be kept on board the ship with all other relevant documentation at all times.

…….. …… (Stamp)
(Date)

[*] Insert as appropriate.

Part VII. CLARIFICATION OF THE TERM "FIRST SCHEDULED DRY-DOCKING" AS CONTAINED IN SOLAS REGULATION III/1.5, AS AMENDED BY RESOLUTION MSC.317(89)

1 The Maritime Safety Committee, at its ninetieth session (16 to 25 May 2012), with a view to ensuring a uniform approach towards the application of SOLAS regulation III/1.5 concerning lifeboat on-load release mechanisms, approved a clarification of the term "first scheduled dry-docking" as contained in SOLAS regulation III/1.5, as amended by resolution MSC.317(89), as follows:

> "In the context of SOLAS regulation III/1.5, the wording "first scheduled dry-docking" was introduced to mean the "first scheduled out of water survey of the ship's outer bottom". This explanation is to clarify that the on-load release mechanisms need not be compliant during an in-water survey, should this occur before a dry-docking."

2 As advised by the IMO Maritime Safety Committee, the Department of Marine Department uses the above clarification when applying the requirements of SOLAS regulation III/1.5 and hereby brings it to the attention of all parties concerned and, in particular, port State control officers.

Part VIII. UNIFIED INTERPRETATION ON FALL PREVENTER DEVICES (MSC.1/CIRC.1392 AND MSC.1/CIRC.1327) (Reference: IMO MSC.1/Circ. 1466, 24 June 2013)

1 The Maritime Safety Committee, at its eighty-sixth session (27 May to 5 June 2009), approved *Guidelines for the fitting and use of fall preventer devices* (FPDs) (MSC.1/Circ.1327) following the recommendations made by the Sub-Committee on Ship Design and Equipment, at its fifty-second session.

2 The Maritime Safety Committee, at its eighty-ninth session (11 to 20 May 2011), approved *Guidelines for evaluation and replacement of lifeboat release and retrieval systems* (MSC.1/Circ.1392), as per SOLAS regulation III/1.5, following the recommendations made by the Sub-Committee on Ship Design and Equipment, at its fifty-fifth session, and the Ad Hoc Working Group on Lifeboat Release Hooks (16 to 18 March 2011).

3 The Maritime Safety Committee, at its ninety-second session (12 to 21 June 2013), approved a unified interpretation on fall preventer devices (MSC.1/Circ.1392 and MSC.1/Circ.1327), providing guidance on the requirements for the strength and testing standards to be applied to FPDs, following the recommendations made by the Sub-Committee on Ship Design and Equipment, at its fifty-seventh session.

4 As advised by the IMO Maritime Safety Committee, the Department of Marine Department uses the annexed unified interpretation when applying the provisions of MSC.1/Circ.1392 and MSC.1/Circ.1327 and bring it to the attention of all parties concerned.

Part IX. REQUIREMENTS FOR MAINTENANCE, THOROUGH EXAMINATION, OPERATIONAL TESTING, OVERHAUL AND REPAIR OF LIFEBOATS AND RESCUE BOATS, LAUNCHING APPLIANCES AND RELEASE GEAR (Reference: IMO Resolution MSC. 402 (96), 19 May 2016)

THE MARITIME SAFETY COMMITTEE,

RECALLING Article 28(b) of the Convention on the International Maritime Organization concerning the functions of the Committee,

RECALLING ALSO the *Measures to prevent accidents with lifeboats* (MSC.1/Circ.1206/Rev.1) and the *Interim recommendation on conditions for authorization of service providers for lifeboats, launching appliances and on-load release gear* (MSC.1/Circ.1277) approved by it,

RECOGNIZING the need to establish a uniform, safe and documented standard for maintenance, thorough examination, operational testing, overhaul and repair of lifeboats (including free-fall lifeboats) and rescue boats (including fast rescue boats), launching appliances and release gear,

NOTING that, by resolution MSC.404(96), it adopted amendments to regulations III/3 and III/20 of the International Convention for the Safety of Life at Sea, 1974 ("the Convention"), concerning maintenance, thorough examination, operational testing, overhaul and repair of lifeboats and rescue boats, launching appliances and release gear,

NOTING ALSO that the aforementioned regulation III/20 of the Convention provides that the maintenance, thorough examination, operational testing, overhaul and repair shall be carried out in accordance with the Requirements for maintenance, thorough examination, operational testing, overhaul and repair of lifeboats and rescue boats, launching appliances and release gear ("the Requirements"),

HAVING CONSIDERED, at its ninety-sixth session, the recommendation made by the Sub-Committee on Ship Systems and Equipment, at its third session,

1 ADOPTS the Requirements for maintenance, thorough examination, operational testing, overhaul and repair of lifeboats and rescue boats, launching appliances and release gear, the text of which is set out in the annex to the present resolution;

2 INVITES Contracting Governments to the Convention to note that the Requirements will take effect on 1 January 2020 upon entry into force of the associated amendments to regulations III/3 and III/20 of the Convention;

3 ALSO INVITES Contracting Governments to the Convention to take measures they consider appropriate to ensure that national manufacturers of equipment certified under chapter III of the Convention for installation and use on board ships undertake to ensure that equipment, instructions, specialized tools, spare parts, training and accessories, as required, are available to independent service providers in a timely and cost-effective manner;

4 REQUESTS the Secretary-General to transmit certified copies of this resolution and the text of the Requirements contained in the annex to all Contracting Governments to the Convention;

5 REQUESTS ALSO the Secretary-General to transmit copies of this resolution and the annex to all Members of the Organization which are not Contracting Governments to the Convention.

Note: With reference to the above invitation, the Department of Marine Administration noted that the Requirements will take effect on 1 January 2020 upon entry into force of the associated amendments to regulations III/3 and III/20 of the Convention and therefore will take appropriate measures to ensure that national manufacturers of equipment certified under chapter III of the Convention for installation and use on board ships, if any, undertake to ensure that equipment, instructions, specialized tools, spare parts, training and accessories, as required, are available to independent service providers in a timely and cost-effective manner.

ANNEX

REQUIREMENTS FOR MAINTENANCE, THOROUGH EXAMINATION, OPERATIONAL TESTING, OVERHAUL AND REPAIR OF LIFEBOATS AND RESCUE BOATS, LAUNCHING APPLIANCES AND RELEASE GEAR

1 GENERAL

1.1 The objective of these Requirements for maintenance, thorough examination, operational testing, overhaul and repair of lifeboats and rescue boats, launching appliances and release gear (the Requirements) is to establish a uniform, safe and documented standard for maintenance, thorough examination, operational testing, overhaul and repair of the equipment specified in paragraph 2.1.

1.2 The detailed procedures covered by these Requirements are provided in section 6.

1.3 These Requirements relate to the following regulations:

.1 SOLAS regulation III/20 – Operational readiness, maintenance and inspections; and

.2 SOLAS regulation III/36 – Instructions for onboard maintenance.

1.4 The Company[1] shall ensure that maintenance, thorough examination, operational testing, overhaul and repair on board its ships is conducted in accordance with these Requirements and SOLAS regulation III/20. The Company shall establish and implement health, safety and environment (HSE) procedures covering all activities set out in these Requirements.

1.5 The personnel carrying out maintenance, thorough examination, operational testing overhaul and repair as described in paragraphs 4.2 and 4.3 shall be certified by an authorized service provider in accordance with the requirements specified in section 8. When performing such activities on board ships they shall comply with health, safety and environment (HSE) instructions and procedures established by the Company.

2 APPLICATION

2.1 These Requirements shall apply to the maintenance, thorough examination, operational testing, overhaul and repair of:

.1 lifeboats (including free-fall lifeboats), rescue boats and fast rescue boats; and

.2 launching appliances and on-load and off-load release gear for lifeboats (including primary and secondary means of launching appliances for free-fall lifeboats), rescue boats, fast rescue boats and davit-launched liferafts.

2.2 For the purpose of these Requirements:

.1 *Authorized service provider* means an entity authorized by the Administration in accordance with section 3 and section 7.

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1 For the purpose of these Requirements, Company is as defined in SOLAS regulation IX/1.2.

.1 *Equipment* means the aforementioned equipment to which the Requirements apply.

.2 *Manufacturer* means the original equipment manufacturer or any entity which has taken legal and legitimate responsibilities for equipment when the original equipment manufacturer no longer exists or supports the equipment.

.3 *Off-load release mechanism* means a release mechanism which releases the survival craft/rescue boat/fast rescue boat when it is waterborne or when there is no load on the hooks.

.4 *On-load release mechanism* means a release mechanism which releases the survival craft/rescue boat/fast rescue boat with load on the hooks.

.5 *Repair* means any activities requiring disassembly of equipment, or any other activities outside the scope of the instructions for on-board maintenance and for emergency repair of life-saving appliances prepared in accordance with SOLAS regulations III/36.2 and III/35.3.18, respectively.

.6 *Overhaul* means a periodical activity defined by the manufacturer that proves continued fitness for purpose for a defined period subject to correct maintenance.

3. AUTHORIZATION

3.1 Administrations shall ensure that the thorough examination, operational testing, repair and overhaul of equipment (see paragraphs 4.2 and 4.3) shall be carried out in accordance with SOLAS regulation III/20 by service providers authorized in accordance with section 7.

3.2 The requirements in section 7 shall equally apply to manufacturers when they are acting as authorized service providers.

4 QUALIFICATION LEVELS AND CERTIFICATION

4.1 Weekly and monthly inspections and routine maintenance as specified in the equipment maintenance manual(s), shall be conducted by authorized service providers, or by shipboard personnel under the direction of a senior ship's officer in accordance with the maintenance manual(s).

4.2 Annual thorough examinations and operational tests, as described in section 6.2, shall be conducted by certified personnel of either the manufacturer or an authorized service provider in accordance with section 7 and section 8. The service provider may be the ship operator provided that it is authorized in accordance with section 3 and section 7.

4.3 Five-year thorough examination, any overhaul, overload operational tests[2], as described in section 6.3, and repair shall be conducted by certified personnel of either the manufacturer or an authorized service provider in accordance with section 7 and section 8.

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2 See SOLAS regulations III/20.11.1.2, III/20.11.2.2 and III/20.11.3.2.

5 REPORTS AND RECORDS

5.1 All reports and checklists shall be completed and signed by the person who carries out the inspection and maintenance work and countersigned by the Company's representative or the ship's master.

5.2 Records of maintenance, thorough examination, operational testing, overhaul and repair shall be updated and filed on board the ship for the service life of the equipment.

5.3 When thorough examination, operational testing, overhaul and repair are completed, a statement confirming that the lifeboat arrangements remain fit for purpose shall be promptly issued by the manufacturer or authorized service provider that conducted the work. A copy of valid documents of certification and authorization as appropriate shall be included with the statement.

6 SPECIFIC PROCEDURES FOR INSPECTION, MAINTENANCE, THOROUGH EXAMINATION, OPERATIONAL TESTING, OVERHAUL AND REPAIR

6.1 General/Maintenance

6.1.1 Any inspection, maintenance, thorough examination, operational testing, overhaul and repair shall be carried out according to the maintenance manuals and associated technical documentation developed by the manufacturer.

6.1.2 A full set of maintenance manuals and associated technical documentation as specified in paragraph 6.1.1 shall be available on board.

6.1.3 The maintenance manuals and associated technical documentation as specified in paragraph 6.1.1 shall include the items listed in sections 6.2 and 6.3 as a minimum and shall be kept up to date by the Company taking into account relevant information provided by the manufacturer.

6.2 Annual thorough examination and operational test

6.2.1 All items listed in checklists for the weekly/monthly inspections required by SOLAS regulations III/20.6 and III/20.7 also form the first part of the annual thorough examination.

6.2.2 Records of inspections and routine on-board maintenance carried out by the ship's crew and the applicable certificates for the equipment shall be reviewed.

6.2.3 For lifeboats (including free-fall lifeboats), rescue boats and fast rescue boats, the following items shall be thoroughly examined and checked for satisfactory condition and operation:

.1 condition of the boat structure including fixed and loose equipment (including a visual examination of the external boundaries of the void spaces, as far as practicable);

.2 engine and propulsion system;

.3 sprinkler system, where fitted;

.4 air supply system, where fitted;

.5 manoeuvring system;

.6 power supply system;

.7 bailing system;

.8 fender/skate arrangements; and

.9 rescue boat righting system, where fitted.

6.2.4 For release gear of lifeboats (including free-fall lifeboats), rescue boats, fast rescue boats and liferafts, the following shall be thoroughly examined for satisfactory condition[3] and operation after the annual operational test of the winch brake with the empty boat or equivalent load, as required by paragraph 6.2.10:

.1 operation of devices for activation of release gear;

.2 excessive free play (tolerances);

.3 hydrostatic interlock system, where fitted;

.4 cables for control and release; and

.5 hook fastening.

Notes: 1 The setting and maintenance of release gear are critical operations with regard to maintaining the safe operation of lifeboats (including free-fall lifeboats), rescue boats, fast rescue boats and davit launched liferafts. Utmost care shall be taken when carrying out all inspection and maintenance operations on the equipment.

2 No maintenance or adjustment of the release gear shall be undertaken while the hooks are under load.

6.2.5 The operational test of davit-launched lifeboats' and rescue boats' on-load release function shall be carried out as follows:

.1 position the boat partially in the water such that the mass of the boat is substantially supported by the falls and the hydrostatic interlock system, where fitted, is not triggered;

.2 operate the on-load release gear;

.3 reset the on-load release gear; and

.4 examine the release gear and hook fastening to ensure that the hook is completely reset and no damage has occurred.

[3] Hanging-off pennants may be used for this purpose but should not remain connected at other times, such as when the lifeboat is normally stowed and during training exercises. The release gear is to be examined prior to its operational test. The release gear is to be re-examined after its operational test and the operational test of the winch brake. Special consideration shall be given to ensure that no damage has occurred during the winch brake test, especially to the hook fastening.

6.2.6 The operational test of davit-launched lifeboats' and rescue boats' off-load release function shall be carried out as follows:

.1 position the boat so that it is fully waterborne;

.2 operate the off-load release gear;

.3 reset the off-load release gear; and

.4 recover the boat to the stowed position and prepare for operational readiness.

During the test, prior to hoisting, it shall be checked that the release gear is completely and properly reset. The final turning-in of the boat shall be done without any persons on board.

6.2.7 The operational test of the free-fall lifeboat release function shall be carried out as follows:

.1 engage the arrangements for the test without launching the lifeboat, required by paragraph 4.7.6.4 of the LSA Code, as specified in the manufacturer's operating instructions;

.2 if required to be on board, ensure that the operator is properly seated and secured in the seat location from which the release mechanism is to be operated;

.3 operate the release mechanism to release the lifeboat;

.4 reset the lifeboat in the stowed configuration;

.5 repeat the procedures referred to in .2 to .4 above, using the back-up release mechanism, if applicable;

.6 remove the arrangements for the test without launching the lifeboat, required by paragraph 4.7.6.4 of the LSA Code; and

.7 verify that the lifeboat is in the ready to launch stowed configuration.

6.2.8 The operational test of the davit-launched liferaft automatic release function shall be carried out as follows:

.1 manually release the hook with a load of 150 kg on the hook;

.2 automatically release the hook with a dummy weight of 200 kg on the hook when it is lowered to the ground; and

.3 examine the release hook and hook fastening to ensure that the hook is completely reset and no damage has occurred.

If a raft is used for the test instead of a dummy weight, the automatic release function shall release the raft when waterborne.

6.2.9 For launching appliances for lifeboats (including free-fall lifeboats), rescue boats, fast rescue boats and liferafts, the following items shall be examined for satisfactory condition and operation:

.1 davit or other launching structures, in particular with regard to corrosion, misalignments, deformation and excessive free play;

.2 wires and sheaves, possible damage such as kinks and corrosion;

.3 lubrication of wires, sheaves and moving parts; and

.4 if applicable:

.1 functioning of limit switches;

.2 stored power systems;

.3 hydraulic systems; and

.5 for winches:

.1 inspecting the braking system in accordance with winch manual;

.2 replacing brake pads, when necessary;

.3 winch foundation; and

.4 if applicable:

.1 remote control system; and

.2 power supply system.

6.2.10 For winches of the launching appliances for lifeboats (including free-fall lifeboats), rescue boats, fast rescue boats and liferafts, annual operational testing shall be done by lowering the empty craft or boat or equivalent load. When the craft has reached its maximum lowering speed and before the craft enters the water, the brake shall be abruptly applied. Following these tests, the stressed structural parts shall be reinspected[4] where the structure permits the reinspection.

6.3 Five-year thorough examination, overhaul and overload operational tests

6.3.1 The five-year operational test of the winches of the launching appliances shall be carried out with a proof load equal to 1.1 times the weight of the survival craft or rescue boat and its full complement of persons and equipment. When the proof load has reached its maximum lowering speed, the brake shall be abruptly applied.

6.3.2 Following these tests, the stressed structural parts shall be reinspected[4] where the structure permits the reinspection.

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4 In loading the craft or boat for this test, precautions should be taken to ensure that the stability of the craft or boat is not adversely affected by free surface effects or the raising of the centre of gravity.

6.3.3 The operational tests and overhaul at five-year intervals of release gear for lifeboats (including free-fall lifeboats), rescue boats, fast rescue boats and liferafts shall include:

.1 dismantling of hook release units;

.2 examinations with regard to tolerances and design requirements;

.3 adjustment of release gear system after assembly;

.4 operational tests as per paragraphs 6.2.5, 6.2.6, 6.2.7 or 6.2.8 above, as applicable, but with a load equal to 1.1 times the weight of the survival craft or rescue boat and its full complement of persons and equipment; and

.5 examinations of vital parts with regard to defects and cracks[5].

6.3.4 Any other overhaul if required shall be carried out in accordance with paragraph 6.3.3.

7 REQUIREMENTS FOR AUTHORIZATION OF SERVICE PROVIDERS

7.1. Authorization as required by paragraph 3.1 shall include, as a minimum, demonstration of:

.1 employment and documentation of personnel certified in accordance with a recognized national, international or industry standard as applicable, or a manufacturer's established certification programme. In either case, the certification programme shall comply with section 8 for each make and type of equipment for which service is to be provided;

.2 availability of sufficient tools, and in particular any specialized tools specified in the manufacturer's instructions, including portable tools as needed for work to be carried out on board ship;

.3 access to appropriate parts and accessories as specified for maintenance and repair;

.4 availability of the manufacturer's instructions for repair work involving disassembly or adjustment of on-load release mechanisms and davit winches; and

.5 a documented and certified quality system, which covers at least the following:

.1 code of conduct for personnel involved in the relevant activity;
.2 maintenance and calibration of measuring tools and gauges;
.3 training programmes for personnel;
.4 supervision and verification to ensure compliance with operational procedures;
.5 recording and reporting of information;

[5] Non-destructive examination (NDE) techniques, such as dye penetrants (DPE), may be suitable.

.2 quality management of subsidiaries and agents;

.3 job preparation; and

.4 periodic review of work process procedures, complaints, corrective actions and issuance, maintenance and control of documents.

Note: A documented quality system complying with the most current version of the ISO 9000 series and including the above items would be considered acceptable.

7.2 Administrations shall ensure that information regarding authorized service providers is made available.

7.3 In cases where a manufacturer is no longer in business or no longer provides technical support, Administrations may authorize service providers for the equipment on the basis of prior authorization for the equipment and/or long-term experience and demonstrated expertise as an authorized service provider.

7.4 Issuance and maintenance of authorization document:

.1 upon successful initial audit of a service provider, an authorization document shall be issued by the Administration defining the scope of services provided (e.g. makes and types of equipment). The expiry date shall be clearly written on the document;

.2 the Administration shall ensure that work continues, e.g. by periodic audit, to be carried out in accordance with these Requirements, and shall withdraw the authorization of service providers who are not in compliance; and

.3 the Administration may accept or recognize service providers authorized by other Administrations or by their Recognized Organizations.

8 REQUIREMENTS FOR CERTIFICATION OF PERSONNEL

8.1 Personnel for the work specified in paragraphs 4.2 and 4.3 shall be certified by the manufacturer or authorized service provider for each make and type of the equipment to be worked on in accordance with the provisions in this section.

8.2 Education and training

8.2.1 Initial certification shall be issued only to personnel having completed education, training and competence assessment. Education shall address, as a minimum:

.1 relevant rules and regulations, including international conventions;

.2 design and construction of lifeboats (including free-fall lifeboats), rescue boats and fast rescue boats, including on-load release gear and launching appliances;

.3 causes of lifeboat and rescue boat accidents;

.4 education and practical training in the procedures specified in section 6 for which certification is sought;

.5 detailed procedures for thorough examination, operational testing, repair and overhaul of lifeboat (including free-fall lifeboats), rescue boats and fast rescue boats, launching appliances and on-load release gear, as applicable;

.6 procedures for issuing a report of service and statement of fitness for purpose based on paragraph 5.3; and

.7 work, health and safety issues while conducting activities on board.

8.2.2 Training shall include practical technical training on thorough examination, operational testing, maintenance, repair and overhaul techniques using the equipment for which the personnel are to be certified. The technical training shall include disassembly, reassembly, correct operation and adjustment of the equipment. Classroom training shall be supplemented by field experience in the operations for which certification is sought, under the supervision of a certified person.

8.2.3 Prior to issuance of certification, a competency assessment shall be satisfactorily completed, using the equipment for which the personnel are to be certified.

8.3 **Validity of certificates and renewal**

8.3.1 Upon completion of training and competency assessment, a certificate shall be issued defining the level of qualification and the scope of the certification (i.e. makes and types of equipment and specifically state which activities in paragraphs 4.2 and 4.3 are covered by the certification). The expiry date shall clearly be written on the certificate and shall be three years from the date of issue. The validity of any certificate shall be suspended in the event of any shortfall in performance and only revalidated after a further competency assessment.

8.3.2 A competency assessment shall be conducted to renew the certification. In cases where refresher training is found necessary a further assessment shall be carried out after completion.

Note: With reference to the above IMO Resolution MSC. 402 (96), 19 May 2016, the Department of Marine Administration hereby brings it to the attention of all parties concerned to take note of it and comply with the requirements in a timely and cost-effective manner.

Part X. GUIDELINES ON SAFETY DURING ABANDON SHIP DRILLS USING LIFEBOATS
(Reference: IMO MSC. 1/Circ. 1578, 19 June 2017)

1 The Maritime Safety Committee, at its eighty-first session (10 to 19 May 2006), recalled that, at its seventy-ninth session (1 to 10 December 2004), it had endorsed the intention of the Sub-Committee on Ship Design and Equipment, in cooperation with the Sub-Committee on Standards of Training and Watchkeeping, to develop further guidance as envisioned in the *Accidents with lifeboats* (MSC/Circ.1049) and, accordingly, approved the *Guidance on safety during abandon ship drills using lifeboats* (MSC/Circ.1136).

2 The Committee also recalled that the guidance developed for lifeboats has relevance, in general, for emergency drills related to other life-saving systems and should be taken into account when such drills are conducted. In connection with MSC/Circ.1136, and recognizing the need to provide a basic outline of essential steps to safely carry out simulated launching of free-fall lifeboats in accordance with SOLAS regulation III/19.3.4.4, and having considered the proposals made by the Sub-Committee on Ship Design and Equipment, at its forty-seventh session, the Committee also approved the *Guidelines for simulated launching of free-fall lifeboats* (MSC/Circ.1137).

3 Having considered the need to update the above Guidance and Guidelines, and having considered the proposals made by the Sub-Committee on Fire Protection, at its fiftieth session, to consolidate the numerous circulars on the subject of measures to prevent accidents with lifeboats in order to better serve the mariner, the Committee, at its eighty-first session, approved the *Guidelines on safety during abandon ship drills using lifeboats*, as set out in annex 2 to the *Measures to prevent accidents with lifeboats* (MSC.1/Circ.1206/Rev.1).

4 The Committee, at its ninety-eighth session (7 to 16 June 2017), approved the *Guidelines on safety during abandon ship drills using lifeboats*, following the amalgamation of annex 1 to the *Measures to prevent accidents with lifeboats* (MSC.1/Circ.1206/Rev.1) and the *Interim Recommendation on conditions for authorization of service providers for lifeboats, launching appliances and on-load release gear* (MSC.1/Circ.1277) in the *Requirements for maintenance, thorough examination, operational testing, overhaul and repair of lifeboats and rescue boats, launching appliances and release gear* (resolution MSC.402(96)), which revoked annex 1 to MSC.1/Circ.1206/Rev.1.

5 Member States are invited to give effect to the annexed Guidelines and to bring them to the attention of shipowners, ship operators, ship-vetting organizations, ship personnel, surveyors, manufacturers and all other parties concerned.

6 This circular supersedes annex 2 to MSC.1/Circ.1206/Rev.1.

Note: As advised by the IMO Maritime Safety Committee, the Department of Marine Department hereby gives immediate effect to the annexed Guidelines and brings them to the attention of shipowners, ship operators, ship-vetting organizations, ship personnel, surveyors, manufacturers and all other parties concerned.

ANNEX

GUIDELINES ON SAFETY DURING ABANDON SHIP DRILLS USING LIFEBOATS

1. GENERAL

1.1 Introduction

1.1.1 It is essential that seafarers are familiar with the life-saving appliances on board their ships and that they have confidence that the appliances provided for their safety will work and will be effective in an emergency. Frequent periodic shipboard drills are necessary to achieve this.

1.1.2 Crew training is an important component of drills. As a supplement to initial shore-based training, onboard drills and training will familiarize crew members with the ships' appliances and the associated procedures. The objective of drill and training is to develop appropriate crew competencies, enabling effective and safe utilization of the equipment required by the 1974 SOLAS Convention, as amended (SOLAS). The time limits set out in SOLAS for ship abandonment should be considered as a secondary objective when conducting drills.

1.2 Drill frequency

Experience has shown that holding frequent drills makes the crew more familiar with the life-saving appliances on board their ships and increases their confidence that the appliances will work and will be effective in an emergency. Drills give the opportunity to gain experience in the use of the safety equipment in cooperation. The ability to cope with an emergency and handle the situation is improved by frequent drills. However, frequent crew changes sometimes make it difficult to ensure that all on board have the opportunity to participate in drills when the minimum required drills are conducted only. Therefore, consideration needs to be given to scheduling drills as necessary to ensure all on board have an early opportunity to become familiar with the ship appliances and systems.

1.3 Drills must be safe

1.3.1 Abandon ship drills should be planned, organized and performed in accordance with relevant shipboard requirements of occupational safety and health so that the recognized risks are minimized.

1.3.2 Drills provide an opportunity to verify that the life-saving appliances are working and that all associated equipment is in place, in good working order and ready for use.

1.3.3 Before conducting drills, it should be checked that the lifeboat and its equipment have been maintained in accordance with the ship's maintenance manuals and any associated technical documentation, as well as noting all the precautionary measures necessary. Abnormal conditions of wear and tear or corrosion should be reported to the responsible officer immediately.

1.4 Emphasis on learning

Drills should be conducted with an emphasis on learning and be viewed as a learning experience, not just as a task to meet a regulatory requirement to conduct drills. Whether they are emergency drills required by SOLAS or additional special drills conducted to enhance the competence of the crew members, they should be carried out at safe speed. During drills, care should be taken to ensure that persons on board familiarize themselves with their duties and with the equipment. If necessary, pauses should be made during the drills to explain especially difficult elements. The experience of the crew is an important factor in determining how fast a drill or certain drill elements should be carried out.

1.5 Planning and organizing drills

1.5.1 SOLAS requires that drills shall, as far as practicable, be conducted as if there was an actual emergency.[1] This means that the entire drill should, as far as possible, be carried out, while ensuring that the drill can be performed in such a way that it is safe in every respect. Consequently, elements of the drill that may involve unnecessary risks need special attention or may be excluded from the drill.

1.5.2 In preparing for a drill, those responsible should review the manufacturer's instruction manual to ensure that a planned drill is conducted properly. Those responsible for the drill should ensure that the crew is familiar with the guidance provided in the life-saving appliances instruction manuals.

1.5.3 Lessons learned in the course of a drill should be documented and made a part of the follow-up shipboard training discussions and the planning of the next drill session.

1.5.4 The lowering of a boat with its full complement of persons is an example of an element of a drill that may, depending on the circumstances, involve an unnecessary risk. Such drills should only be carried out if special precautions are observed.

2 ABANDON SHIP DRILLS

2.1 Introduction

It is important that the crew who operate safety equipment on board are familiar with the functioning and operation of such equipment. SOLAS requires that sufficiently detailed manufacturers' training manuals and instructions be carried on board, which should be easily understood by the crew. Such manufacturers' manuals and instructions should be accessible for everyone on board and observed and followed closely when preparing and conducting drills.

2.2 Guidance to the shipowner

2.2.1 The shipowner should ensure that new safety equipment on board the company's ships has been approved and installed in accordance with the provisions of SOLAS and the International Life-Saving Appliances (LSA) Code.

2.2.2 Procedures for holding safe drills should be included in the Safety Management System (SMS) of the shipping companies. Detailed procedures for elements of drills that involve a special risk should be evident from workplace assessments adjusted to the relevant life-saving appliance.

2.2.3 Personnel carrying out maintenance and repair work on lifeboats should be qualified accordingly.[2]

[1] Refer to SOLAS regulation III/19.3.1.

[2] Refer to the *Requirements for maintenance, thorough examination, operational testing, overhaul and repair of lifeboats and rescue boats, launching appliances and release gear*, adopted by resolution MSC.402(96).

2.3 Lifeboats lowered by means of falls

2.3.1 During drills, everyone participating should be alert for potentially dangerous conditions or situations and should bring them to the attention of the responsible person for appropriate action. Feedback and recommendations to the shipowner, the Administration and the system manufacturer are important elements of the marine safety system.

2.3.2 When drills are to be performed with persons on board the lifeboat, it is recommended that the boat be lowered and recovered without any persons on board first to ascertain that the arrangement functions correctly. In this case, the boat should then be lowered into the water with only the number of persons on board necessary to operate the boat.[3]

2.3.3 To prevent lashings or gripes from getting entangled, proper release should be checked before swinging out the davit.

2.4 Free-fall lifeboats

2.4.1 The monthly drills with free-fall lifeboats should be carried out according to the manufacturer's instructions, so that the persons who are to enter the boat in an emergency are trained to embark the boat, take their seats in a correct way and use the safety belts; as well as being instructed on how to act during launching into the sea.

2.4.2 When the lifeboat is free-fall launched as part of a drill, this should be carried out with the minimum personnel required to manoeuvre the boat in the water and to recover it. The recovery operation should be carried out with special attention, bearing in mind the high-risk level of this operation. Where permitted by SOLAS[4], simulated launching should be carried out in accordance with the manufacturer's instructions, taking due note of the Guidelines for simulated launching of free-fall lifeboats, as set out in the appendix.

3 Refer to the *Clarification of SOLAS regulation III/19* (MSC.1/Circ.1326 and Corr.1).

4 Refer to SOLAS regulation III/20.11.2.

APPENDIX
GUIDELINES FOR SIMULATED LAUNCHING OF FREE-FALL LIFEBOATS DURING DRILLS

1 Definition

Simulated launching carried out during drills, in accordance with SOLAS regulation III/19, is a means of training the crew in the free-fall release procedure of free-fall lifeboats without the physical activation of the release mechanism.

2 Purpose and scope

The purpose of these Guidelines is to provide a basic outline of essential steps to safely carry out simulated launching. These Guidelines are general; the lifeboat manufacturer's instruction manual should always be consulted before conducting simulated launching. Simulated launching should only be carried out with lifeboats and launching appliances designed to accommodate it, and for which the manufacturer has provided instructions. All persons involved should be familiar with the manufacturers' instructions and the activation of the release mechanism. Manuals, posters and signs may be used to assist familiarization and the conduct of drills. Simulated launching should be carried out under the supervision of a responsible person who should be an officer experienced in such procedures and be conducted without the physical activation of the free-fall release system. Testing of release systems should be separate to and not carried out during simulated launching drills.

3 Conduct of drills – typical simulated launching sequence (SOLAS regulation III/19)

3.1 Check equipment and documentation to ensure that all components of the lifeboat and launching appliance are in good operational condition.

3.2 Ensure that all personnel involved in the drill are familiar with the operating manuals, posters and signs.

3.3 Ensure that the restraining device(s) provided by the manufacturer for simulated launching are installed and secure and that the free-fall release mechanism is fully and correctly engaged.

3.4 Establish and maintain good communication between the assigned operating crew and the responsible person.

3.5 Disengage lashings, gripes, etc. installed to secure the lifeboat for sea or for maintenance, except those required for simulated free-fall.

3.6 Participating crew board the lifeboat and fasten their seatbelts under the supervision of the responsible person.

3.7 All crew disembark the lifeboat.

3.8 Return the lifeboat to the condition it was in prior to step provided in paragraph 3.4. Ensure that the lifeboat is returned to its normal stowed condition. Remove any restraining and/or recovery devices used only for the simulated launch procedure.