



## Safety of seafarers

A seaman was killed and two other seamen were seriously injured when the lifeboat they were in fell 20 metres to the water after the wire falls parted. The limit switches did not operate and the falls parted when the davits came up to their stops with the winch motor running. Another fatality was only prevented by a crewmember's safety helmet. This was one of three similar accidents where lives were put at risk.



In each case, the local control for hoisting had failed to operate. The winch motors were then operated by manually depressing the contactor in starter panels situated in fan rooms or the funnel casing, from where the boats could not be seen. The effect of manually depressing the contactor was to bypass the limit switches, resulting in the winches continuing to run after the davits were 'home', and the falls parting.

Most lifeboat accidents, including those described above, have occurred during training drills, the purpose of which is to increase the confidence and competence of seafarers when handling lifeboats. Regrettably, that purpose is not always being met.

There is increasing worldwide concern at the number of deaths and injuries that have resulted from lifeboat accidents and for the safety of seafarers when lifeboats are being used. It has been determined that the causes of these accidents can generally be attributed to:

- Unsafe practices during boat drills and/or,
- Failure or inadvertent operation of on-load release mechanisms,

- Inadequate maintenance of lifeboats, davits and launching equipment,
- Communication failures; and
- Lack of familiarity with lifeboats, davits and associated controls.

### Unsafe practices and remedial procedures

In the accidents described above, instead of determining why the boats could not be hoisted in the normal manner by using local or remote controls, an unsafe practice was followed, causing the accidents.

**The risk of such accidents would be reduced by posting warning notices at the starter boxes for all lifeboat winches drawing attention to the hazard of operating the winch with the contactor, particularly if there are personnel in the boat.**

If, for operational reasons, it is necessary to recover a boat by operating a winch from its remote starter box, it is recommended that the following precautions are taken:

- The boat's crew are disembarked before hoisting starts and the boat is hoisted to embarkation deck level, or,
- The boat is initially hoisted to the embarkation deck where the crew are disembarked
- In either case, hoisting will have to be carried out with communications being checked to ensure that the recovery of the boat can be carefully monitored
- The lifeboat can then be turned in by manually winding in the falls.



## Inadvertent operation of on-load release mechanisms

A leading cause of lifeboat accidents reported from around the world is the inadvertent operation, premature release, or failure of on-load release mechanisms.

An accident occurred during a port state control inspection when a surveyor asked to see a lifeboat engine run ahead and astern. After some minutes with the engine running but the shaft in neutral, the boat detached from the falls and fell almost 20 metres to the water. Its crew were admitted to hospital with significant injuries, one of them with serious head and spinal injuries.

The Australian investigation into this incident determined that the lifeboat falls release mechanism had been armed and in a condition for instant, on load, release. It was considered likely that a crewmember had used the falls release lever, believing it to be the gear lever for ahead and astern movements of the engine.

The report on this incident concluded that:

- The boat was released by the operation of the release lever by one of the persons in the boat. The on-load release mechanism safety pin, preventing movement of the quadrant, was not in position and the release system was in the 'armed condition'.
- Although the boats were swung out at regular intervals and were in good working order, the vessel's crew were insufficiently practiced in the use of the release gear.
- No one in the boat understood how the on-load release mechanism operated.
- The languages used in the instruction manual and on notices inside the boats were not understood by the crew.
- Language difficulties between the crewmembers were a factor in the incident.
- The incident could have been prevented by the fitting of an operational interlock designed to ensure a two stage release of the boat.



## ATSB observations

The Australian Transport Safety Bureau (ATSB) has noted that, while ship's lifeboats have saved many lives over the years, they are increasingly being associated with serious accidents as illustrated by the forgoing incident. Investigations in Australia and overseas have identified issues of crew training, maintenance and design as the main contributing factors in such accidents.

An ATSB review of lifeboat accidents found that, to meet the modern requirements for enclosed lifeboats to be released on load, the release mechanisms have become more elaborate and sophisticated. However, there is no standardisation in the design of release mechanisms and the increasing sophistication is accompanied by engineering tolerances that are affected by salt-laden environments. In addition, maintenance instructions and operational procedures are often not suitable for use by ship's crews.

Relatively complex designs, together with a poor understanding of their operation by ship's crews, insufficient maintenance and less than adequate manufacturer's instructions have led to the involuntary release of one or both hooks. The largest number of accidents, just over half of those reported, were caused by the unintentional release of hooks while on-load.

## Reducing the likelihood of accidents

To reduce the possibility of lifeboat accidents, the ATSB emphasises the importance of training and drills, conducted in accordance with Regulation 19 of SOLAS Chapter III. With certain types of equipment, special training of ship's personnel might be required so they achieve the appropriate levels of proficiency with such equipment.

Regulations 35 and 36 of Chapter III of SOLAS for training and on-board maintenance require sufficiently detailed training manuals and instructions, easily understood, to be provided in appropriate languages for use by ship's crews

Operating instructions for survival craft are to be posted in accordance with Regulation 9 of Chapter III of SOLAS, which states in part:

Posters or signs shall be provided on or in the vicinity of survival craft and their launching controls and shall:

1. illustrate the purpose of controls and the procedures for operating the appliance and give relevant instructions or warnings.

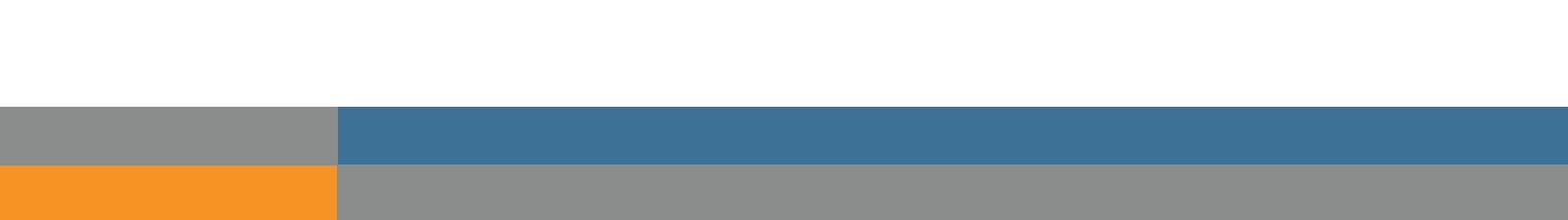
These instructions must also be in a language, or languages, appropriate for the crew.

Lifeboat on-load release gear is to be fitted in accordance with clause 4.4.7.6.2.2 of the Life-Saving Appliance Code. Servicing of launching appliances and on-load release gear is to be carried out in accordance with the requirements of paragraph 11 of Regulation 20 of SOLAS Chapter III.

Shipowners and operators should ensure that:

- Appropriate documentation for the maintenance and adjustment of lifeboats, launching appliances and associated equipment is on board in accordance with section 11 of the ISM Code,
- Personnel undertaking inspections, maintenance and adjustment of lifeboats, launching appliances and associated equipment are fully trained and familiar with these duties in accordance with section 6 of the ISM Code,
- Maintenance of lifeboats, launching appliances and associated equipment is carried out in accordance with procedures established under section 10 of the ISM Code, and
- Lifeboat drills are conducted in accordance with SOLAS Regulation III/19.3.3 and procedures established under section 8 of the ISM Code for the purpose of ensuring that ship's personnel will be able to safely use lifeboats in an emergency.

Lifeboats are evolving into relatively sophisticated items of a ship's equipment but the evidence suggests that the ability of ship's crews to competently operate and maintain these boats, and their launching systems, is not keeping up with the relevant legislative and technical developments.



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