

LIFEBOAT SAFETY MANAGING THE RISKS

This DVD has been produced to highlight the danger of accidents involving lifeboat on-load release mechanisms.

This DVD may be viewed by an individual at any time – but that is not the main purpose. The main purpose of this DVD and briefing booklet is for a responsible officer to read and understand fully the briefing notes – especially the safety messages that the crew should think about to stay safe – prior to using the DVD for a pre-lifeboat drill safety briefing.

The officer giving the briefing can control the progress of the presentation as required. The presentation can be paused at any time during the briefing for discussion to take place. Depending on questions – it is suggested that the briefing should, take 20 to 30 minutes. The DVD running time is approximately 18 minutes.

The content of this booklet and the DVD does not replace vessel/company procedures for lifeboat launch and recovery. The booklet and DVD is not intended to be a training program.

The main purpose is to save lives by highlighting the danger of accidents involving lifeboat on-load release mechanisms.

The ship operator **and** relevant authorities including flag State **must** be consulted for advice and any necessary approval on the fitting and use of fall preventer devices.

ISBN: 978-0-9558257-1-2

NORTH

North of England P&I Association, with offices in the UK, Hong Kong, Greece and Singapore, is one of the leading international mutual marine liability insurers with over 90 million GT of entered tonnage.



Marine Shipping Mutual Insurance Company Limited is one of the few mutual hull and machinery providers in the world and currently has over 7 million GT of entered tonnage.



Worldwide Marine Technology (WMT) of Deeside, UK, is one of the leading suppliers of safety and technical consultancy and documentation to the marine and offshore industries. Products range from bespoke training and familiarisation packages to SOLAS and technical operating manuals for all types of ships and offshore platforms.

www.wmtmarine.com

NORTH

BRIEFING BOOKLET

LIFEBOAT SAFETY MANAGING THE RISKS



NORTH OF ENGLAND P&I ASSOCIATION
MARINE SHIPPING MUTUAL INSURANCE COMPANY

LIFEBOAT SAFETY MANAGING THE RISKS

A BRIEFING ON LIFEBOAT
SAFETY AWARENESS

Published by North of England P&I Association Limited
The Quayside, Newcastle upon Tyne, NE1 3DU, United Kingdom

Telephone +44 191 232 5221
Fax +44 191 261 0540
Email risk.management@nepia.com
Website www.nepia.com

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system or transmitted in any form or by any means (electronic, mechanical, photocopying, recording or otherwise) without the written permission of the publisher.

Copyright © North of England P&I Association Ltd 2009
The Authors assert moral copyright in the work.

Authors: Worldwide Marine Technology Limited
and North of England P&I Association Limited

Printed and bound in the UK
ISBN: 978-0-9558257-1-2

The authors are grateful to
Dennis Barber
Australian Maritime Safety Authority
Bahamas Maritime Authority
International Maritime Organization
Marine Accident Investigation Branch
Maritime and Coastguard Agency UK
for their assistance and support in the preparation of this guide including the supply of photographs and video footage.

Disclaimer

The purpose of this publication is to provide a source of information which is additional to that available to the maritime industry from regulatory, advisory, and consultative organisations. Whilst care is taken to ensure the accuracy of any information made available no warranty of accuracy is given and users of that information are to be responsible for satisfying themselves that the information is relevant and suitable for the purposes to which it is applied. In no circumstances whatsoever shall the North of England P&I Association, Marine Shipping Mutual Insurance Company Ltd, Worldwide Marine Technology or any other person, firm, corporation or organisation which has been concerned with the furnishing of data, the development, compilation, publication or authorised translation, supply or sale of this publication be liable to any person whatsoever for any loss or damage whatsoever or howsoever arising out of or in connection with the supply (including negligent supply) or use of that information. It should be noted that the content of this publication does not constitute legal advice and should not be construed as such.

CONTENTS

	<i>Page</i>
Explanation	2
DVD Part 1 - Introduction	4
DVD Part 2 - On-Load Defined	6
DVD Part 3 - Painter Release	8
DVD Part 4 - Fall Preventer Devices (FPD)	9
Remember	11

EXPLANATION

It is a fact that many seafarers have been, and continue to be, killed or seriously injured in accidents involving the failure of lifeboat on-load release mechanisms.

This DVD may be viewed by an individual at any time – but that is not the main purpose.

The main purpose of this DVD and briefing booklet is for a responsible officer to read and understand fully these briefing notes – especially the safety messages that the crew should think about to stay safe – prior to using the DVD for a pre-lifeboat drill safety briefing.

The objective of this briefing booklet is to give the responsible officer an outline of the content of each of the four sections in the DVD so that the officer has a clear idea of the key safety messages and can think about how to conduct the pre-lifeboat drill briefing. The responsible officer should confirm the understanding of the crew by discussion of the safety messages.

The purpose of the DVD is to highlight the growing body of support for fall preventer devices (FPD) and a 'new' potential hazard of not being able to release the painter. Some simple control measures are suggested – in addition to the basic SOLAS requirements – that will hopefully reduce lifeboat accidents that are killing or seriously injuring seafarers. The DVD can be stopped and re-started at any time for discussion. Depending on questions – it is suggested that the briefing should, take 20 to 30 minutes. The DVD running time is approximately 18 minutes.

All release systems shown in this DVD are for illustration purposes only. Similar arrangements may be fitted to the lifeboats on board your ship but there are about 80 different approved designs of on-load release mechanisms in use on lifeboats so it is likely that the arrangements on board your ship will differ from those shown on this DVD.

Notes

1. Shipowners may wish to have this booklet translated into an additional language - or languages – suitable for the crew on board their ships
2. The video footage at the beginning of the DVD shows a ship carrying out a recommended test launch without the operating crew on board – it will become clear that this procedure will not prove the lifeboat is safe for the crew to enter.
3. **The ship operator and relevant authorities including flag State must be consulted for advice and any necessary approval on the fitting and use of fall preventer devices.**

DVD PART 1 - INTRODUCTION

Safety message: on-load release mechanisms have killed many seafarers, and may continue to kill many more.

The fitting of on-load release systems on lifeboats became mandatory for all vessels constructed after 1 July 1986. This was as a result of several high-profile incidents involving loss of life during lifeboat evacuations utilising lifeboats equipped with fixed hook releases (“off-load” release).

The International Maritime Organisation (IMO) therefore stipulated that lifeboats be fitted with a central control release system that ensured that both lower fall blocks were released simultaneously, even if under load.

However, this does mean that the hooks can be disengaged at any point during the launching/recovery process, either as a result of human error or mechanical defect.

There are about 80 different types of approved on-load release hooks in use on lifeboats. Many on-load release mechanisms have become over-complicated, original manufacturers operating instructions posted inside, or adjacent to, the lifeboat are often difficult to understand, and many of the original manufacturers have ceased trading so that spare parts and original operating instructions are no longer available. Consequently, it is not surprising that accidents can occur.

In the UK, the Marine Accident Investigation Branch (MAIB) produced a study listing 125 accidents and incidents involving lifeboats. The most serious of these accidents, mostly involving fatalities, were caused as a result of problems with the on-load release gear. According to MAIB data, in a 10-year period, 12 seafarers were killed and 87 injured. It is likely that the true figures are significantly higher, as many accidents and incidents may go unreported.

DVD PART 2 - ON-LOAD DEFINED

Safety message: on-load release mechanisms were never intended to release a lifeboat that was not in the water.

On-load may be defined as a method of disengaging the lifeboat lifting hooks, even if the blocks and falls are still under load. The idea is to enable the lifeboat to be disengaged from both lower fall blocks simultaneously, even if they are under load - perhaps as a result of the vessel still making headway, or the boat having been launched into rough seas, a strong current or a tidal stream. It was never intended to be used as a means of disengaging the lifting hooks of a lifeboat that was not in the water.

Most on-load release systems are designed as unstable - they rely upon the release system to maintain the hooks in the closed position, rather than to open them – in other words if the hooks fail they open rather than remain closed. Lack of proper maintenance, human error and even the motion of the lifeboat during a launch or recovery, can cause the system to release, particularly if key components have become worn or have been replaced with non-standard parts.

The on-load release system will have at least two safety features built in:

1. A safety pin prevents the release handle being operated; a positive and deliberate action is required to remove the safety pin and operate the release handle.

2. Until the lifeboat is waterborne, the release system remains in the 'safe' or 'closed' position. Once waterborne, water pressure releases a locking device and moves it from the 'safe' position to the 'open' position. This part of the system is known as the hydrostatic interlock.

After removing the safety pin, the release handle may be operated and the hooks disengaged.

However, it is possible to override the hydrostatic interlock and the hooks will disengage, regardless of the position of the lifeboat.

Safety message: There are no routine circumstances which require the ship's crew to override the hydrostatic interlock. Releasing a lifeboat that is not in the water – even from heights of less than one metre – may cause death or serious injury and result in damage to the lifeboat structure and possible capsize and/or sinking of the lifeboat.

All crew members should thoroughly familiarise themselves with the ship's SOLAS training manual and any company procedures which will incorporate risk assessment control measures for the equipment fitted. If performing any maintenance or checks on the release system, always connect the hanging-off pendants before starting.

Safety message: Never allow anybody to by-pass procedures for use of the hanging-off pendants.

DVD PART 3 - PAINTER RELEASE

Safety message: Have you thought about whether the painter can be released from a full lifeboat in an emergency?

The purpose of the permanent painter is to assist in maintaining the lifeboat's position beneath the falls after launching to allow disconnection.

If the vessel is still making way through the water, or if the lifeboat has been launched into heavy seas, or from lack of proper maintenance, it may not be possible to release the painter using the painter release system. Once the lifeboat is full of people - in a relatively confined area wearing survival suits and lifejackets – it can mean that releasing the painter becomes a problem.

It is likely that the capacity of the lifeboat exceeds the actual number of crew on the vessel. If this is the case, seating should be allocated so that there is clear access to the painter release system.

If possible use the lifeboat engine to take the weight off the painter.

If neither of these actions work then cutting the permanent painter may be the only option. Although a lifeboat-knife and two axes are supplied as part of the lifeboat standard equipment, they may not cut the painter quickly. However, if each lifeboat was equipped with an additional serrated blade knife this would probably provide a quick and safe method of cutting the permanent painter in emergency circumstances.

DVD PART 4 - FALL PREVENTER DEVICES (FPD)

Safety message: The risk of an accident from inadvertent release of the lifeboat on-load hooks is unacceptably high. Use fall preventer devices to control the risk and stay safe.

The ship operator and relevant authorities including flag State must be consulted for advice and any necessary approval on the fitting and use of fall preventer devices.

This part of the DVD will show a lifeboat with FPD fitted being lowered to near embarkation level so that an **inadvertent release of the lifeboat on-load hooks** can be simulated and observed.

SOLAS regulations no longer require crew members to be on board the lifeboat for launching and recovery. But if the lifeboat is to be launched empty, how are the crew to board?

The IMO recommend that if a lifeboat is to be launched with its operating crew, it should first be lowered and raised with no-one on board to "...ascertain that the arrangement functions correctly."

The problem with this test launch is that it only proves safety for that particular launch; it does not prove safety for a subsequent launch with crew on board.

The UK Maritime and Coastguard Agency (MCA) have recommend that a system of maintenance shackles - rigged to by-pass the on-load release hooks – should be used to control the risk. This would restore crew confidence in the safety of the lifeboat, enabling them to be on board for launching and recovery, an important consideration if the crew are to be confident in operating the lifeboat in an emergency.

The Bahamas Maritime Authority has issued guidance for the fitting of fall preventer devices (FPD).

Nylon loop strops of sufficient safe working load are recommended as fall preventer devices. These can be connected between each lower fall block and a suitable fixed point on the lifeboat. Wires could be used, but the advantage of using nylon is that it can absorb shock loads and can be easily cut in an emergency – the advantage of a loop strop is that only ONE standing part needs to be cut to release it. If each lifeboat has been equipped with an additional serrated blade knife this would probably provide a quick and safe method of cutting a nylon fall preventer device in an emergency.

The fall preventer devices should be of such length to ensure there is no slack when connected. This will prevent possible catastrophic shock loading to the fall preventer devices and the persons in the lifeboat should the lifeboat release hooks inadvertently open.

Do not use the hanging-off pennants or the foul-weather recovery strops as fall preventer devices - they are only to be used for the purpose for which they were designed.

A second option is to replace the existing lifeboat lifting hooks with hooks where the on-load release system can be locked once correctly reset. The SAFELAUNCH Lifeboat Release Hook is one such system - when the hook has been reset, a safety pin is inserted through the hook, making it impossible for the hook to inadvertently open.

REMEMBER

The two **hazards** identified and suggested **control measures** are:

1. **Inadvertent release of the lifeboat on-load hooks** – the consequences of which can be death which means the risk is unacceptably high. Use **fall preventer devices** to control the risk and stay safe.
2. Being **unable to release the lifeboat permanent painter** in an emergency – the consequences of which might potentially be fatal which means the risk could be high. For cutting the painter, provide a **serrated blade knife** to control the risk and stay safe.

STAY SAFE