

ORIGINAL UNITOR EEBD:

- zipper has 2cm opening on the teeth
- zipper closes from right to left

COPIED DEVICE:

- zipper has no opening
- zipper closes from left to right. Air release cannot be activated automatically

KEY POINTS

- ensure EEBDs are genuine and are in good working order
- take great care when ordering or servicing any life-saving or fire-fighting appliances. Always ensure genuine parts for fire and safety equipment by going to known service providers
- carry out periodic inspections of life-saving or fire-fighting appliances as per the on-board planned maintenance system (PMS). Retain records of these inspections
- check that life saving and fire fighting equipment is operational



^ Example of a genuine EEBD in good working order

REFERENCE

A copy of the Marine Safety Forum safety flash (11-09) can be found at: <http://www.marinesafetyforum.org/upload-files//safetyalerts/msf-safety-flash-11.09.pdf>

OVERWEIGHT RESCUE BOATS



^ Weighing of overweight boat manufactured by Watercraft Hellas SA

The UK's Marine Accident Investigation Branch (MAIB) in its safety bulletin 1/2011 highlighted the dangers of rescue boats becoming overweight as a result of water penetration into void spaces. This problem caused a serious accident on a UK-flagged car carrier. During a routine drill, the fall wire attached to the rescue boat parted while it was being hoisted to its stowed position. The rescue boat and its four occupants fell nearly 29m into the water. One of the crew members died and two others were taken to hospital.

The rescue boat was identified as a Watercraft WHFRB 6.50 and had a certified weight of 980kg. During the accident investigation, it was weighed and found to be 1450kg. Seven rescue boats of the same model used on sister ships were also inspected and found to be significantly heavier than when supplied. It was determined that the rescue boats' weights when un-laden were close to or exceeded the safe working load (SWL) of their davits; with the addition of crew, fuel and equipment on-board, the SWL of the davits were exceeded. The MAIB stated in its safety bulletin that the weight of the rescue boat *'by itself should not have resulted in the failure of its fall wire due to the safety margins in place. Investigation into the failure of the wire remains on-going.'*

The rescue boat model WHFRB 6.50 was certified to meet SOLAS requirements, the Life Saving Appliance Code and the Marine Equipment Directive. The construction of the rescue boat included an inner and outer hull. The void space below deck was divided into 16 compartments, of which 15 were filled with rigid polyurethane foam to provide a watertight, buoyant volume.

The MAIB found that 14 of the 15 foam-filled compartments in the rescue boat had been penetrated by water as well as lower sections of the hull containing cavities and voids between the foam and hull. The polyurethane foam was found in these areas to be of varying colour and consistency.



^ Inspection of the rescue boat below deck



^ Sample of foam from cavity

The rescue boat was fitted with a drain plug located on the transom, but the internal compartments were not interconnected. This meant that the aftermost compartment could be drained of water through the plug hole, but water present in the other compartments was trapped. The remaining compartments had to be drained by drilling separately into them through the hull.



^ Water draining from trapped compartment

The MAIB investigated how water entered the buoyancy compartments of the rescue boats and identified different types of penetration in their hulls and decks. Further investigation into the foam properties is continuing.

It is evident that water ingress and retention in the foam-filled compartments are serious safety concerns and endanger lives. Over time and without warning, rescue boats' weight can increase to the extent that:

- the safe working load (SWL) of the rescue boat davits and falls could be exceeded
- the rescue boats' performance, including manoeuvrability and handling, could be seriously affected, particularly:
 - the ability to self-right after capsize
 - the ability to tow a survival craft
- the safety of the five-yearly dynamic test where the boats' weight is included in the test weight may be compromised by water penetration

ANALYSIS

- as there is widespread use of foam-filled compartments in various types of rescue boats, it may be that the problem of water ingress and retention is not limited to one particular model
- Norsafe Watercraft Hellas SA has issued a product awareness notice highlighting the dangers associated with its Watercraft WHFRB 6.50 and has advised owners to arrange for their boats to be weighed and, if necessary, seek advice and assistance from the manufacturer
- the parting of the fall wire that resulted in the rescue boat accident may prove a crucial point in the on-going investigation, as it could highlight the quality and maintenance of the wire itself and whether it was fit for purpose. The MAIB reported in its safety bulletin that the overweight lifeboat by itself should not have resulted in the fall wire failure because of the safety margins in place

KEY POINTS AND RECOMMENDATIONS

- owners of rescue boats containing polyurethane foam-filled compartments should be aware of the possibility of these boats being heavier than the design weight
- where any doubt exists, owners should contact the manufacturer, and arrange for the boat to be weighed
- owners of Watercraft WHFRB 6.50 boats should follow the guidance issued by the manufacturer. If guidance has not been received, contact the manufacturer immediately
- when rescue boats are in use, their performance should be monitored for any signs of water penetration: for example, if the boat feels heavy or sluggish when manoeuvred
- conduct regular inspections of rescue boats, paying particular attention to the hull and exposed decks for signs of degradation, including cracks, holes or any fittings through which water could penetrate
- ensure that when rescue boats are in the stowed position, the drain plug is removed to allow water to drain away

The club has seen a small number, but potentially dangerous instances of crane wire failure in fast rescue boats. These have been caused by wire's parting as a result of the damage and/or degradation. The wire damage is sometimes caused by damaged or poorly fitting sheaves. All equipment should be regularly and carefully inspected by competent personnel.

REFERENCE

A copy of MAIB safety bulletin 1/2011 can be found at: http://www.maib.gov.uk/cms_resources.cfm?file=SB1-11.pdf

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