

KISH P & I LOSS PREVENTION CIRCULAR KPI-LP-97-2012 ***(Remote Control can lead to Loss of Control in Lifeboat Drills)***

► Narrative:

It was a great day to be at anchor. The weather was fine and sunny and the master of a Ro-Ro cargo ship decided to take full advantage of the brief lull in the ship's busy trading schedule to carry out mandatory lifeboat drills.

The port and starboard, totally enclosed lifeboats, which were not designed for use with bowing-in arrangements, were directly accessed from a raised platform on the deck.



The lifeboats were arranged for gravity lowering, in the conventional manner, from the deck, by manually controlling the brake.

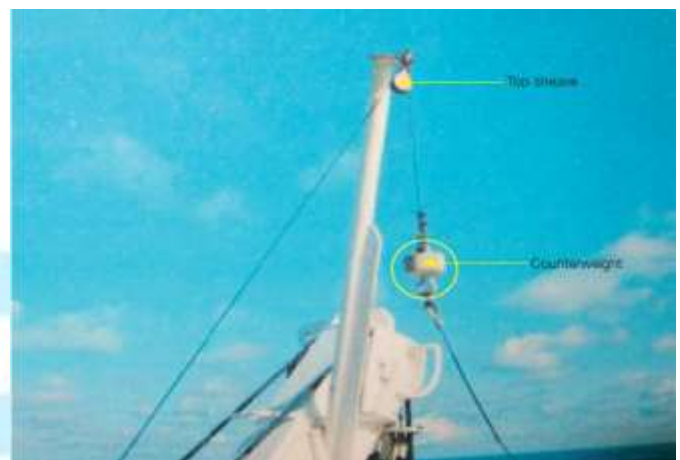
They could also be lowered from within the lifeboats by means of a control wire, which operated the brake control lever. The 4mm control wire was wound onto an auxiliary drum, which was connected to the main winch drum.



Importantly, the instruction manual stated that, during hoisting, the operator should assist in evenly distributing the control wire on the drum to prevent "bunching". The control

wire also passed through four sheaves before finally passing through the lifeboat's coach roof. Tension was maintained on the control wire by a 3kg counterweight which, according to the instruction manual, should be positioned approximately mid-way between the coach roof and the top sheave positioned at the davit head.

This position provided sufficient clearance between the sheave and counterweight when the lifeboat was being hoisted and when fully stowed. The control wire and top sheave arrangements are shown below:



In an emergency situation, the fully loaded lifeboat was designed to be lowered, with the crew already embarked, using the brake controls fitted within the lifeboat. However, during drills it was normal practice to turn out the lifeboat, and to lower it to deck level before the drill crew embarked, despite there being no bowing-in arrangements.

The reason for doing so was that, when lowering the lifeboat from the stowed position, the boat was prone to swinging and, from his position inside the lifeboat the coxswain, who operated the control wire system, had no visibility of what was happening externally.

It was also the ship's procedure to lower the lifeboat to the water and then hoist it to prove system functionality before embarking the drill crew. Before the drill started, those involved were briefed on the procedure, at which time the master noted that the counterweight was at its designated position. The lifeboat was lowered and hoisted successfully. The master then noted that the counterweight had moved very close to the top sheave. To correct this he instructed that one turn should be removed from the control wire drum, which brought the counterweight close to the lifeboat's coach roof.

The master then gave permission to lower the lifeboat before he then entered the wheelhouse.

The third officer and two crew members embarked the lifeboat and fastened their seat belts. Then, contrary to the ship's normal practice, the third officer started lowering the lifeboat by pulling on the internal control wire, under the direction of the chief officer. As the davit arms turned out, the lifeboat swung on the falls and the counterweight was seen to land on the coach roof.

Without tension on the control wire, the winch brake closed, causing the lifeboat to swing violently. The brake then opened and the lifeboat lowered a short distance until the brake again applied itself and the boat swung violently onto two angled plates at the ship's side, causing the two crew to be thrown about; despite wearing seat belts.

Immediately afterwards, the brake once again released as the third officer maintained tension on the control wire. The lifeboat then continued to be lowered into the water and was later recovered without further mishap.

Despite the violent impact with the ship's side, the two crewmen suffered only bruising, which required them to take 24 hours' rest. However, the impact also resulted in a 28cm crack to the underside of the lifeboat's hull, which compromised its watertight integrity.

► **What can be Learnt:**

The intermittent application of the winch brake was caused by tension being taken off and then being re-applied to the internal control wire as the wire was paid out during the lowering process. This was due to a number of riding turns which had built up during the lifeboat's initial hoisting phase, partly caused by misalignment of the sheave closest to the control wire drum.

As the control wire winch rotated, the riding turns were released, which caused additional control wire to be paid out. This caused the counterweight to fall onto the coach roof, which released tension on the brake, causing it to close.

As the lifeboat swung on the falls, the counterweight came clear of the coach roof, which tensioned the control wire, allowing the brake to release.

1. On hoisting the lifeboat, the master noticed that the counterweight was in a different position from that when the lifeboat was lowered. While action was taken to lower the counterweight by taking a turn off the control wire drum, no effort was made to find out the cause of the variation in its position. **Do investigate the causes of defects thoroughly; far too many lifeboat related accidents are due to acceptance of defects and a need to get the drill done taking precedence.**

2. Lifeboat systems can be complicated, and there are many examples of accidents due either to taking shortcuts or to over-familiarity.

Do ensure that you have a thorough understanding of your lifeboat equipment and launching systems.

3. Do not rely on your past knowledge - your current lifeboat and launching systems do merit your close attention.

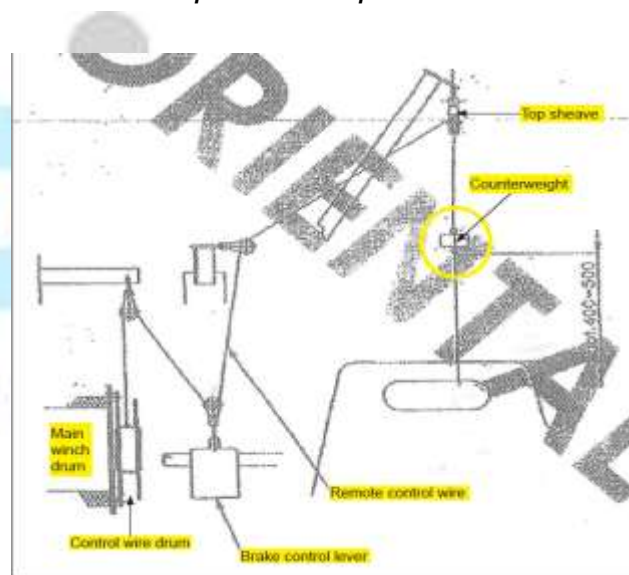
Consult the instruction manuals and ensure the applicable instruction posters are clearly visible at the launching positions.

4. In this case, the instruction manual clearly stated that **careful attention must be paid to ensuring that the wire on the control wire drum was evenly distributed to prevent riding turns** and resultant uneven paying out. This was not considered, and was the root cause of this avoidable accident.

5. The reason for lowering the lifeboat to the deck using the brake's deck manual control position is understandable; it is nevertheless **very important to conduct drills using the emergency procedure.**

This will highlight any problem areas which can then be addressed. The time to find these problems is NOT when the real emergency occurs, but early enough to enable remedial action to be taken.

6. Control wires are often led through a number of sheaves, all of which have the potential for snagging the wire. **It is vitally important that the wires and sheaves are properly maintained to ensure freedom of operation and that alignment of the sheaves is checked where problems are experienced.**



Source: MAIB