



MARINE SAFETY ALERT

Inspections and Compliance Directorate

February 5, 2020
Washington, DC

Safety Alert 03-20

CHECK YOUR LIFEBOAT CABLES

Damaged Control Cables Can Contribute to the Unintended Opening of a Hook

This Safety Alert addresses the importance of checking for and replacing damaged control cables that operate between the release handle and hook in a lifeboat hook release system. The Coast Guard is currently investigating a casualty involving the unintended on-load release of a lifeboat hook from a davit fall wire. Prior to the incident, damage was noted to a control cable between the release handle and one of the hooks. However, the damaged cable remained in service. The damage may have subsequently worsened over time and contributed to the unintentional release.

Lifeboats launched by falls are typically required to have off-load and on-load hook release capabilities. The normal “off-load” release capability allows the hooks to open and release from the falls only when the boat is fully waterborne. The “on-load” release capability allows the boat to be released from the falls when a load remains on the hooks. During the investigation, the Coast Guard observed that external forces applied to damaged control cables, even without movement of the release handle, can bypass interlocks and potentially lead to the unintentional on-load release of some types of hooks.



For illustration purposes only. Does not depict as found condition.

During post-incident laboratory testing the Coast Guard observed that if a control cable, similar to that shown in the image above, is damaged all the way through the outer layers, leaving the traveling inner member exposed, forces applied directly on the separated outer layers can cause the traveling inner member to pull on each of its ends. As the separated outer layers pull apart, the cable’s end rod at the hook can move, which in turn can rotate the locking shaft inside the hook. If the locking shaft rotates enough, the hook can release, even without an operator touching the release handle or overriding the interlocks. The Coast Guard has no indication that a damaged control cable alone can cause a hook to release or open on-load. However, the Coast Guard believes that damaged control cables pose a significant safety risk and should be replaced before attempting to launch a boat that incorporates control cables into the on-load release capability of a hook release system.

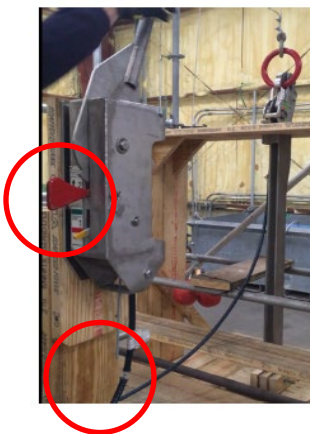


Image 1: The release handle is in the locked and closed position. However, the cable is damaged.

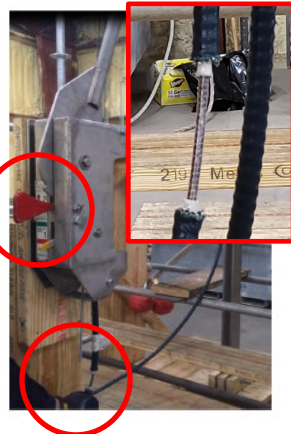


Image 2: Forces cause the outer layers of the cable to separate. The release handle stays closed.

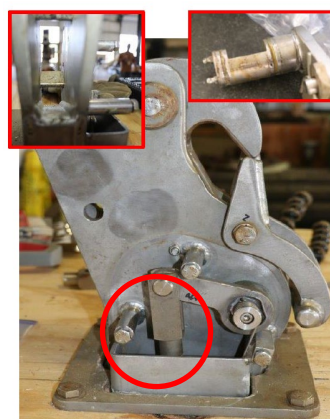


Image 3: At the hook end, the cable end rod moves. This causes the locking shaft to rotate.

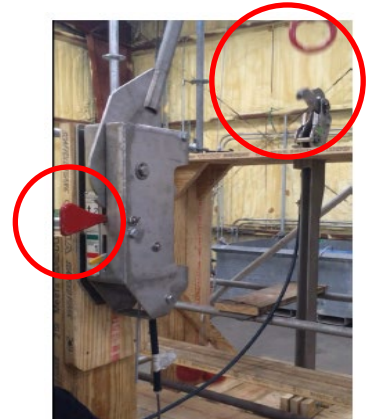


Image 4: If the locking shaft turns enough, the hook will release, even as the release handle stays locked.

The Coast Guard **strongly recommends** that lifeboat owners, manufacturers, operators and service providers:

- Conduct thorough inspections of control cables between the release handle station and release hooks, as well as any other similar cables communicating between the release station and the hydrostatic interlock, if installed, looking for current damage and for potential hazards or other conditions that might compromise the cables in the future;
- Replace cables that show signs of wear or damage to any layers;
- Implement an inspection regime that allows for cable damage to be identified and, as necessary, for cables to be replaced in a timely manner;
- Consult the lifeboat and release mechanism's operations manual prior to conducting launch and recovery drills. It is important to remember that safety pins can be used during drills to prevent the hook-locking shaft from rotating, when they are approved as part of the release mechanism. Although safety pins may provide an extra level of safety during drills and training, operators should ensure that lifeboats are stowed in the "ready to launch" condition without safety pins in place. Ensure that lifeboat crews understand that safety pins will prevent a lifeboat from releasing from the fall wires during a real emergency if they are not removed after routine training evolutions or maintenance.

Marine inspectors, investigators, surveyors and servicing technicians are encouraged to maintain an acute awareness to these issues and initiate corrective actions as needed.

This safety alert is provided for informational purposes only and does not relieve any domestic or international safety, operational, or material requirements. Address questions to HQS-PF-fldr-CG-INV@uscg.mil. Questions regarding the standards of approval for lifeboat on-load/offload release mechanisms may be addressed to typeapproval@uscg.mil.