

## USCG: Hidden corrosion on deck fittings can cause dangerous failures

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The United States Coastguard (USCG) has published Safety Alert 09-22 relating to a dangerous and potentially fatal situation involving D-ring lifting points, which caused a severe injury to a crewmember.

### What happened?

While positioning a removable hatch cover on the vessel (Figures 1 and 2), three of the four D-ring securing straps failed (Figures 3 and 4), causing an uncontrolled snap-back of the lifting sling assembly that struck the crewmember in the head. The three fractured securing straps showed similar failures with a significant amount of corrosion beneath the paint and on the underside of the straps. It is likely that just one D-ring failed initially, which would have instantly doubled the load on the two adjacent corner D-rings, both of which were apparently weakened and subsequently failed. Without proper and periodic inspection and replacement, corrosion and stress can eventually lead to deck fitting failures.

### What went wrong?

- Whilst the arrangement of the hatch cover lifting points were in accordance with all available drawings and design schematics, there were no records of any pull-tests or other testing conducted on these lifting points since their installation in the mid-1980s.
- There were no records of any D-ring replacements, indicating that these have likely been in an exterior weather deck environment for several decades;

### Recommendations

The Coastguard recommend that vessel owners, operators, and other maritime stakeholders:

- Immediately identify high-risk D-rings and similar lifting-point fittings. High risk factors include: Age, weather exposure, and lifting load. These factors will cumulatively cause corrosion losses on the fitting, increasing its stress and fatigue vulnerability during each lifting cycle.
- Thoroughly inspect all high-risk lifting points for damage, hidden corrosion, and wastage. Audio gauging, pull-testing, or even replacement may be appropriate.
- Consult with the manufacturer's instructions to ensure safe lifting limits are in place and that the effects of service life are considered in their determination.

- Establish a maintenance schedule for periodically inspecting all lifting points and audio gauging or testing any fittings as they age into high-risk status.

The USCG encourages marine inspectors, investigators, and surveyors to maintain an acute awareness of these issues and initiate corrective actions as needed.

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