Safety Flash

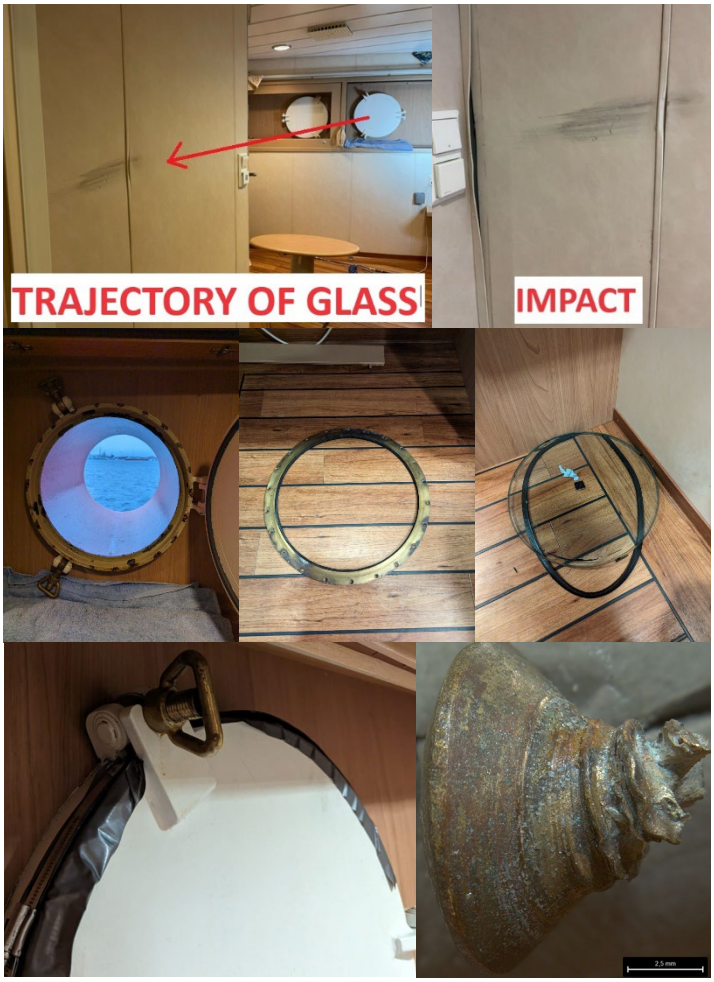
15/24 – July 2024

IMCA Safety Flashes summarise key safety matters and incidents, allowing lessons to be more easily learnt for the benefit of all. The effectiveness of the IMCA Safety Flash system depends on members sharing information and so avoiding repeat incidents. Please consider adding **safetyreports@imca-int.com** to your internal distribution list for safety alerts or manually submitting information on incidents you consider may be relevant. All information is anonymised or sanitised, as appropriate.

1 Side scuttle (porthole) knocked out by wave impact

What happened

While a platform supply vessel was on passage through heavy seas, a large wave hit the vessel and a side scuttle (porthole) in one of the cabins broke loose from its frame, and was violently propelled across the cabin. A crew member sleeping in the cabin at the time was awakened by the impact and ingress of cold water. Personal effects were destroyed and significant repairs were required to the cabin and the scuttle.



Our member notes that under slightly different circumstances the incident could easily have been a fatality, had someone been in the line of fire of the glass pane, frame, and screw heads. The weight of the glass pane was over 6kg and it was projected over 3m by the pressure of air and water.

What went right

- The crew member immediately closed the deadlight over the missing glass pane;
- The vessel crew acted promptly – within 30 minutes – to clean up approximately 150 litres of water and all the debris.

What went wrong

- The vessel was hit by what was considered to be an extra large wave. Conditions at the time Beaufort gale force 8 from the south, seas 2.5m-4m. The vessel was steaming 138° at about 6 knots. Our member noted *"wind direction, wind wave direction and swell direction being almost 90 degrees apart, it is not unlikely that a joining of wave energy might have formed hitting the vessel at a worst-case angle to starboard bow and scuttle."*
- With water and air pushing into recess and pipe of the scuttle, all 22 screws sheared simultaneously, and the pressure built up sent the glass, glass retainer ring and screw heads across the cabin;
- When glass and glass retainer ring broke loose, there was nothing for the deadlight to seal against and duct tape had to be used for temporary weatherproofing;

- There had been previous maintenance of some scuttles following slight leakage, but nothing on record for the one that failed in this incident. It is however possible that at some point, someone with good intentions has taken upon themselves to tighten up the screws if observing minor leaks or drops. With specified max torque for brass screws per maker advice being 4N, there is not much force needed before the screws become overtightened.

What was the cause

Following detailed metallurgical investigation of failed screws/bolts, it was felt that the cause the incident was that the 22 screws holding the glass and glass frame did not have adequate strength to withstand the force of the wave that hit the way it did. The screws provided were poorly manufactured and had been overtightened during installation or during service life.

Actions taken

- Checked all other scuttle glass holder screws;
- Overhauled all scuttles during next dry dock which was scheduled a few months after the incident;
- Detailed discussions with metallurgists relating to metal screws;
- Discussions with both the supplier of the scuttle and the original designer of the vessel;
- Amended procedure for required use of cabin deadlights in heavy weather;
- Added signage to discourage overtightening screws of the glass retainer ring.

Members may wish to refer to

- Seawater entering cabin caused electrical fault
- LTI: Damage and personal injury arising from heavy weather

2 Dropped object: unsecured cargo inside box broke lose and fell

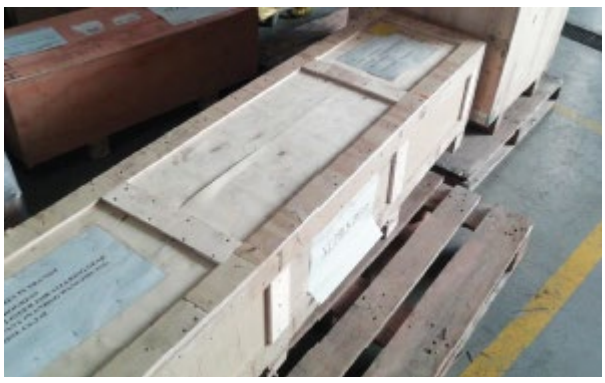
Applicable Life Saving Rule(s)

Line of Fire

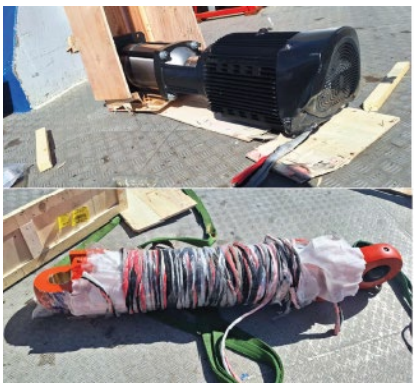
Safe Mechanical Lifting

What happened

A load of cargo being lifted onto a vessel destabilised and the cargo, weighing over 400kg, fell approx. 5m from the load onto the vessel deck. This high potential near miss incident occurred when materials were being lifting from the quay onto a vessel alongside. A pallet containing two closed wooden crates with one piece inside each crate, was slinged and lifted. At around 5m off the deck, the crane started to turn the load into the vessel's deck. A hydraulic ram within the cargo moved and broke the wooden crate, causing the pallet assembly to destabilize and the two crates to fall to the vessel deck. There were crew members on deck within 3m of the impact. No-one was injured. There was some damage to deck equipment.



Condition of the cargo box before and after the incident



Pump and hydraulic ram dropped

SS

What went wrong

- The cargo was not prepared properly: the wooden box in which the hydraulic ram was stored did not contain any support or cargo securing structure; the hydraulic ram was loose and could slide around the box due to inertia and the lack of support;
- The two boxes were placed onto the pallet but were not secured by any means as strapping or shrink-wrapped to the pallet. This allowed the boxes to move more freely around the pallet surface and change the balance and centre of gravity of the load;
- The pallet was loaded with two wooden boxes, one with the ram that weighted 365 kgs and the other box contained a pump weighed 93 kgs, so the pallet was unbalanced;
- There were several gusts of wind during the operation that could have swayed the load during lifting.

Actions

- Only trained and certified vessel crew should be involved in lifting operations;
- Cargo delivered to the vessel should be visually inspected by competent personnel to assess their condition before lifting. Any doubts as to their integrity should be reported to the vessel master and client as required, and the cargo rejected until safety is confirmed;
- Wooden pallets are not designed to be lifted. Pallets do not have a safe working load and slings can cause the pallet to fail regardless of the type;
- Cargo should be properly secured and that securing should be assessed by competent personnel before the lift starts;
- Check the weather, particularly the wind, before and during lifting operations.

Members may wish to refer to:

- Dropped pallet during loading of stores
- Pallet failure: High potential dropped object during lifting operations
- MSF: Unsafe Cargo Transfer Using Pallets
- IMCA HSS 019 *Guidelines for lifting operations*

3 Load lost from lorry on public road – inadequate securing of cargo

Applicable Life Saving Rule(s)

Line of Fire

What happened

During the transportation of equipment, a load became free of its single retention strap and fell off a lorry onto a public road. The load fell off while passing a roundabout at low speed. The loads which fell off were stacked on top of each other and included large hoses on a wooden pallet, each load weighing 100kg. The hose was wrapped in plastic for long-term preservation and had become wet and slippery following rain.

There were no people and no other vehicles in the vicinity at the time.

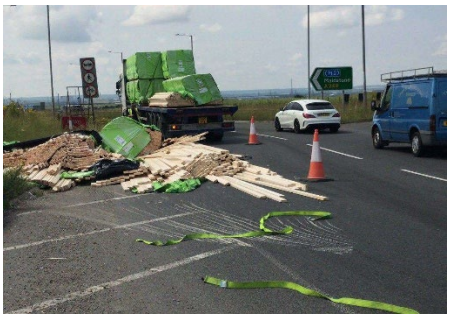


Image: kentonline.co.uk (NOT the incident described here)

What went wrong

Our member noted the following:

- The securing of the cargo (large hoses) for transportation, was inappropriate and insufficient;
- The available internal information and instructions were not in a format that could be clearly understood, nor was that information suitably communicated;
- "Task seen as routine" – there was some complacency as this was perceived as a simple straightforward task.

Actions taken

- An incident review session was held with the yard team, to better examine, understand and consider some of the human factors that can influence and introduce complacency in routine tasks / activities;
- The internal information and instructions were improved, following industry good practice for frequently transported goods:
  - How to transport them;
  - What transportation/securing materials to use (e.g. stillages for hoses instead of pallets);
  - How to secure them properly. (e.g. minimum number of straps);
  - Who is responsible for doing what, and who is responsible for checking and verification.

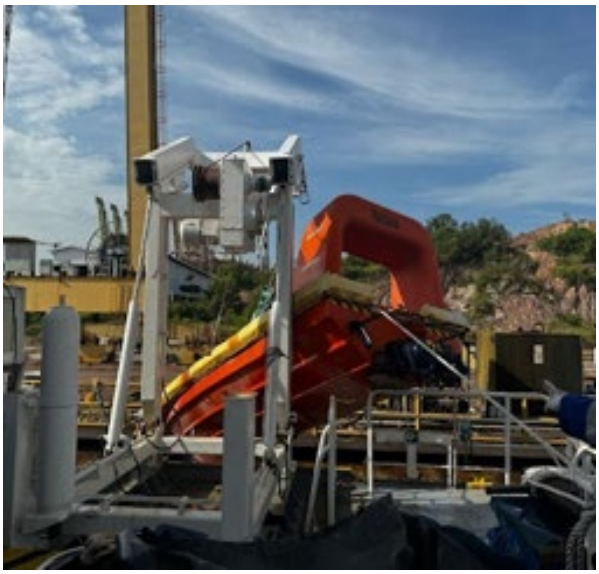
Members may wish to refer to:

- More than a dropped object – the need for vigilance during cargo operations
- Load fell from trailer after it was inadequately secured
- Loading and securing of cargo
- Securing of loads

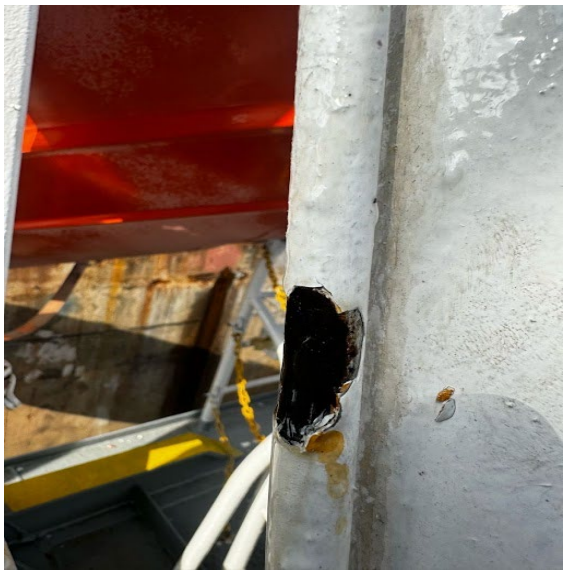
4 Fast Rescue Boat (FRC) comes close to falling off in a dry dock

What happened

During an annual test of an FRC (Fast Rescue Craft) and davit on a vessel in dry dock, the boat tipped forward and collided with a railing while the stern became stuck. During the launch, the engineers powered up the davit and began paying out the wire. However, a lashing line was not removed, causing the forward part of the FRC to collide with a railing while the stern became stuck. Additionally, the hydraulic piping started leaking. The operation was halted; there were no injuries.



FRC close to dropping



Hole in hydraulic pipe

What went right

On discovery of the hydraulic leak the operation was promptly halted, and the FRC was secured to prevent further damage.

What went wrong

- In the initial stages of the launch the FRC was still lashed down, causing the forward part of the FRC to collide with a railing while the stern became stuck;

- The hydraulic pipe burst due to abnormal pressure conditions;
- There was a lack of clear procedures and communication during the launch process;
  - In particular, insufficient pre-launch checks and communication.

Actions taken

- Risk Assessment: Include comprehensive checks for mechanical and hydraulic systems before launching the FRC;
- Communication: Maintain clear and consistent communication channels between the officer in charge, engineers, and crew members;
- Procedures: Develop and implement detailed procedures for the launch and retrieval of the FRC, ensuring all crew members are trained and aware of their roles.

Members may wish to refer to:

- Lifeboat drill – near casualty
- Accidental release of free-fall lifeboat
- Routine test of lifeboat launch results in fatalities

5 MAIB: LTI - a wedge shattered causing injury

Applicable Life Saving Rule(s)

Line of Fire

The UK Marine Accident Investigation Branch has published Safety Digest 1/2024, consisting of lessons from recent Marine Accident Reports. IMCA has reviewed the report and passes on to members some of the incidents which we consider to be of interest. This is one of them.

What happened

Crew member swinging the sledgehammer

Crew on a cargo vessel were preparing to open a cargo hold hatch cover, which was sealed by several wedges. The usual technique for releasing the wedges was to use a sledgehammer. A crew member quickly approached the wedge and, without taking time to prepare, swung the sledgehammer. The sledgehammer hit the wedge, but instead of coming out, the wedge remained lodged in place and shattered, sending debris flying towards the crew member. A small fragment of the securing wedge penetrated the crew member's right leg, just below the knee. The crew member received first aid and was signed off work for three days to recover from their injury.

Useful questions

- Have you performed a thorough check of equipment and the work area before operations began?
- Could deterioration of parts cause failure - even after the correct procedure and planning routines are followed?
- Take the time to think things through - consider how to safely perform an action;
- Assess the area and level of force required, the alignment of the swing – that might have resulted in an effective strike and prevented the catastrophic failure of the wedge.

Lessons

Before using heavy tools, be aware of what could happen if things go wrong. In this case, swinging the hammer away from the body might have reduced the risk of being struck either by flying debris or the hammer itself if the wedge was missed.

Members may wish to refer to:

- Injuries to the eyes and face
- Line of fire injury – Man struck in face by hammer