

IMCA Safety Flash 05/20

February 2020

These flashes summarise key safety matters and incidents, allowing wider dissemination of lessons learnt from them. The information below has been provided in good faith by members and should be reviewed individually by recipients, who will determine its relevance to their own operations.

The effectiveness of the IMCA safety flash system depends on receiving reports from members in order to pass on information and avoid repeat incidents. Please consider adding the IMCA secretariat (imca@imca-int.com) to your internal distribution list for safety alerts and/or manually submitting information on specific incidents you consider may be relevant. All information will be anonymised or sanitised, as appropriate.

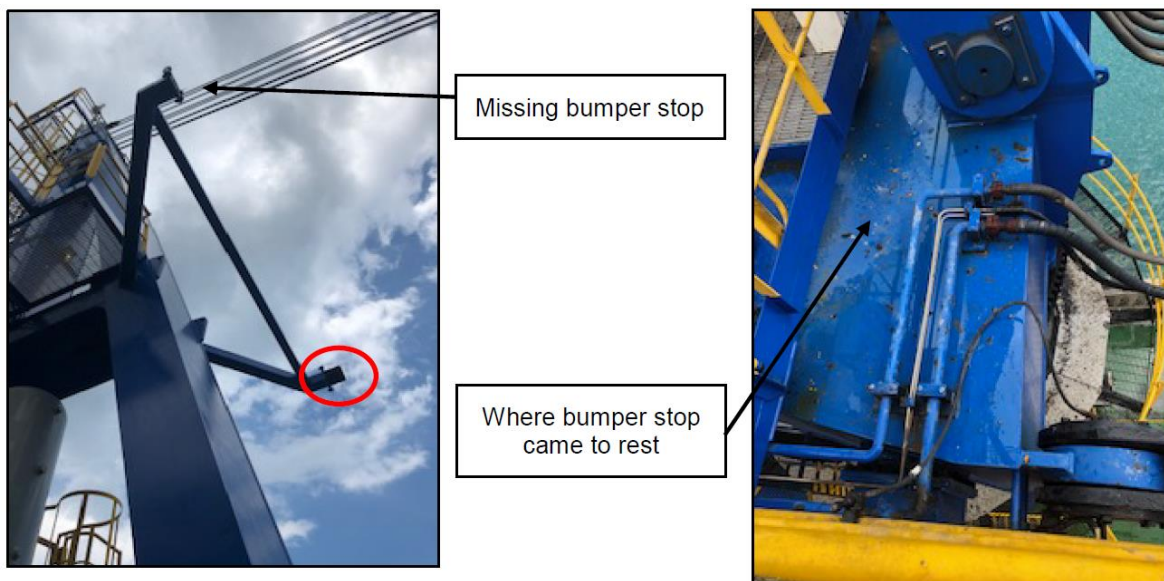
A number of other organisations issue safety flashes and similar documents which may be of interest to IMCA members. Where these are particularly relevant, these may be summarised or highlighted here. Links to known relevant websites are provided at www.imca-int.com/links. Additional links should be submitted to info@imca-int.com

Any actions, lessons learnt, recommendations and suggestions in IMCA safety flashes are generated by the submitting organisation. IMCA safety flashes provide, in good faith, safety information for the benefit of members and do not necessarily constitute IMCA guidance, nor represent the official view of the Association or its members.

1 Dropped Object Near Miss – Crane Boom Bumper Stop Falls Off

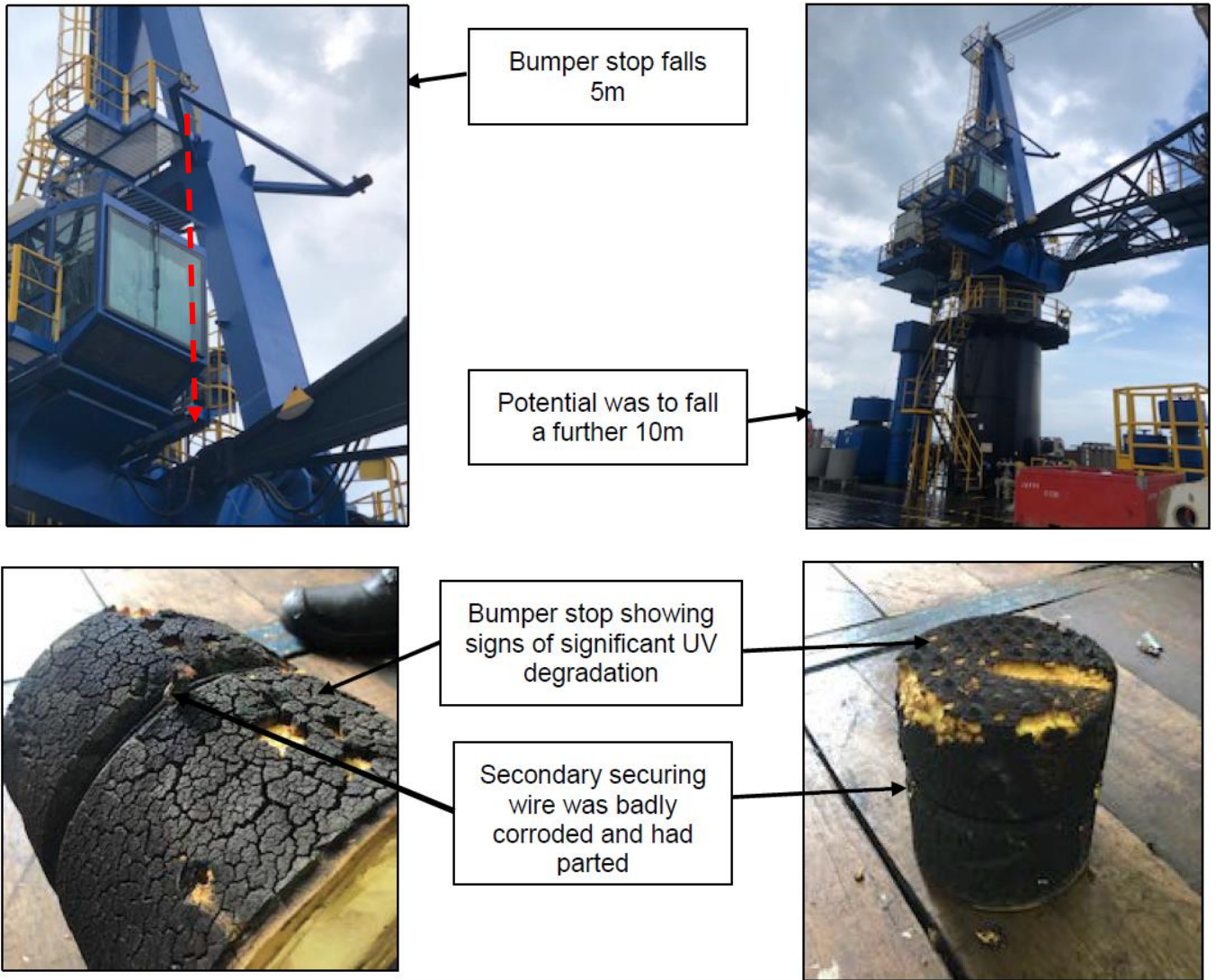
What happened?

This was a high potential near miss dropped object incident in which a crane boom bumper stop fell onto the crane cab. No personnel were injured; however, there was potential for serious or fatal injury. The incident occurred during preparation for vessel reactivation following a period in warm stack; a crane mechanic spotted a part of one of the vessel cranes had fallen off and was missing.



The crane mechanic stopped his inspection and proceeded up the crane to investigate further. The bumper stop was observed laying on the crane cab level outside of the handrails. The bumper stop is made of vulcanised rubber that is bonded to a steel securing plate and fitted to the crane A frame with steel bolts. A steel wire secondary securing lanyard was fitted around the circumference of the vulcanised rubber and tied back to the A frame. The vulcanised rubber had detached from the steel securing plate which remained attached to the A frame; however, the secondary securing wire had corroded and parted allowing the bumper stop to fall.

During the warm stack period, dropped object inspections had routinely been performed on all three vessel cranes, with the most recent one being carried out a few days before this near miss incident.



What lessons were learned?

- ◆ The vulcanised rubber section of the bumper stops was vulnerable to UV light damage;
- ◆ Secondary retention wires should be manufactured from a corrosion resistant material;
- ◆ The location and lack of accessibility to the bumper stops prevented regular and sufficient physical inspection:
 - the condition of the bumper stops and the secondary retention device could not be fully assessed without scaffolding, rope access or alternative means
 - the secondary retention wire was not clearly visible from the closest point of inspection 2m away. Degradation of the wire could not be seen
 - the vulcanised rubber section of the bumper stop had deteriorated to an unstable condition and detached from the securing plate;
- ◆ There is potential for similar incidents to happen on other vessels, in areas where access to potential dropped objects is difficult.

What actions were taken?

- ◆ Continue existing dropped object inspections, and review existing dropped object checklists and/or work orders when next used and update if required;
- ◆ Identify equipment and structures that cannot be easily accessed for inspection and present a risk of dropped objects and determine the best means of safe access and frequency of inspection;

- ◆ Ensure exposed potential dropped objects are suitably protected from corrosion and ensure retention devices are of suitable strength and made from corrosion resistant material;
- ◆ Investigate the use of an alternative bumper stop material that does not degrade in sunlight and consider other components that are vulnerable to UV damage that could result in an incident;
- ◆ Consider if inspection or replacement frequency needs to be increased.

Members may wish to refer to:

- ◆ [Galvanic Corrosion Causes Dropped Object – Satellite Dome Fell From Mast](#)
- ◆ [Dropped Object: Injury Resulting From Failure Caused By Corrosion](#)
- ◆ [Near Miss: Corrosion Caused Crane Boom Failure During Heavy Lifting](#)

2 High Potential Near Miss Dropped Object

What happened?

During trans-spooling of 1½” hydraulic jumper from a wooden reel to a subsea carousel, the second end termination head of the hydraulic jumper pipe released from the reel and fell to the floor. The end termination head, weighing 11kg, fell from approximately 3 meters down to the floor. It released during spooling of the first two of several layers. The securing arrangement consisted of a rubber covered metal band that was fastened to the wooden reel with 2 wood screws. Five people were working nearby and were in the line of fire; the end termination head missed them and there were no injuries.



Picture 1 shows how 2nd end termination head end was secured



Picture 2 showing the transpooling location and task

Our member noted that a similar incident happened in 2017.

What went wrong?

- ◆ This specific risk was highlighted in the task plan; however, the task plan was not properly followed on site before conducting the operation;
- ◆ The hazards of potential dropped objects were not properly addressed to personnel involved in the pre-job toolbox talk (TBT) and task risk assessment;
- ◆ Some personnel involved in the work were not trained in this type of work;
- ◆ The distance between the reel and the carousel was too short to allow for the people operating the reel, to attach the wire to the jumper and keep a safe distance from the reel when rotating;

- ◆ The securing arrangement for the heads, in this case wooden screws, was inadequate. Additionally, a second barrier was not considered necessary.

What actions were taken?

- ◆ Termination heads on reels should be highlighted as potential dropped objects in the task risk assessment (TRA). A second barrier should be added before spooling if proper engineered solutions are not in place;
- ◆ Working closely to a rotating reel should be considered a high risk which should be properly mitigated;
- ◆ All personnel should be trained for the task they are performing. If there are uncertainties regarding their competence, a competence assessment should be conducted beforehand.

Members may wish to refer to:

- ◆ [Pipe under tension on a reel](#)
- ◆ [Uncontrolled Rotation Of 9.6m Reel](#)

3 Dropped Object from Crane

What happened?

A composite block forming the end stop topping of a crane fell 20m from the crane to deck. The incident occurred after a Suez Canal transit, when it had been necessary to use the crane to lift a small boat into and out of the water. After clearing the canal, the crane had to be secured for sea. While slewing to the right, the composite block (end stop topping) fell from the top of the crane (a height of 20 m). A number of crew members were within 4m of where it landed. No-one was injured.



Rust forming



Stopper in place



Stopper missing



Rust on plate



Dropped object

What went wrong? What were the causes?

Investigation revealed that the composite block was only glued instead of drilled and fastened to the crane. Rust came in between the steel plate of the crane and the composite block, which loosened it and caused it to fall off.

The root causes identified were:

- ◆ Material failure;
- ◆ Inadequate design;
- ◆ Inadequate maintenance.

An inspection was made of the aft crane, where a similar gap was observed between the steel plate and the composite block.

What actions were taken?

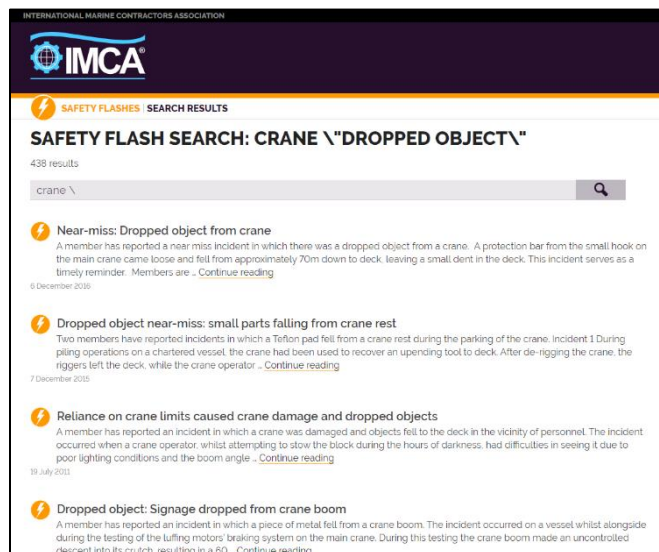
Our member required the following fleet-wide actions:

- ◆ Check your own cranes for loose or potentially loose objects and for rust and corrosion and consider engineered solutions to any potential problems identified;
- ◆ Consider the area immediately around the crane to be a potential dropped object zone;
- ◆ Conduct a fresh dropped object survey on the vessel.

Our member contacted the crane supplier for advice and subsequently published an internal maintenance bulletin on this topic.

IMCA notes: this incident illustrates the need to continue to pay careful attention to crane maintenance and to the clear risk of parts falling *from the crane itself*, in addition to managing the risk of objects falling from the load.

Safety Flashes can be searched effectively; rather than draw members attention to just three or four recent incidents involved parts falling off cranes, please browse our [safety flash search](#) to see a wider list of incidents involving dropped objects from cranes.



4 Wrapped Cargo Slipped During Loading and Fell

What happened?

A large load weighing over six tonnes was dropped during loading operations. The item was a hot air duct. The centre of gravity (COG) of the load and the lifting points were marked on the tarpaulin wrapping the load and this information was used during the lift. The hot air duct was slightly tilted when lifted but within margins, and loading was continued. Although one person called STOP, this was immediately overruled by a supervisor. When the load was approximately 1.5m above deck and under the control of taglines from the riggers, the lifting sling slid towards the centre of gravity and one side of the load bounced on the deck, while the load was still hanging in the rigging. The rigging was not damaged or broken.



The damaged hot air duct was sent ashore again for repairs. No-one was harmed or injured.

What went wrong?

The centre of gravity of the load and lifting markings were wrongly marked on the tarpaulin, resulting in the sling sliding during loading towards the centre of gravity and thus one side of the air duct bouncing onto the deck.

What were the causes?

Our member noted the following points:

- ◆ Wrongly marked COG and lifting points;
- ◆ The lift was considered by crew as an engineered lift due to marked COG and lifting points on the tarpaulin;
- ◆ Saddles were loose due to poor construction;
- ◆ No clear communication – it was unclear who was in charge of the operation; too many people interfered with the lift;

- ◆ ‘Stop work authority’ was not followed, and no risk assessment/evaluation was made after the STOP call;
- ◆ The tarpaulin didn’t give any friction to the sling or the rigging.

What actions were taken?

- ◆ Take care with supplied COG or lifting markings;
- ◆ Reiterate/discuss the standard operating procedure, and who will be in charge;
- ◆ ‘Stop work authority’ to be reinforced/explained by senior management.

Members may wish to refer to:

- ◆ [Dropped Object – Intermediate Bulk Container \(IBC\)](#) [centre of gravity shifted during lift]
- ◆ [Uncontrolled Rotation Of 9.6m Reel](#) [unplanned and unforeseen shift of centre of gravity]
- ◆ [Fatality During Lifting Operations](#) [finding: all lifts require planning whether they are ‘routine’ or non ‘routine’]

5 Unsafe Lifting Operations – Potential Dropped Object

What happened?

The Marine Safety Forum (MSF) has published [Safety Alert 19-15](#) relating to a potential dropped object during unsafe lifting operations. An observation was recorded during a routine vessel crane lifting operation. The lift was a pallet laden with chemical drums being lifted from the quayside onto the vessel using webbing slings. The only method of securing was plastic film and the lift was not lifting levelly.

- ◆ Significant potential existed for this lift to fail, resulting in the load falling from height;
- ◆ Slings are not considered a suitable method for lifting pallets by crane. Pallets have no safe working load (SWL) and are not designed to be lifted by crane with slings;
- ◆ Using slings to lift pallets can result in failure of the pallet structure, resulting in loss of loads.



What actions were taken?

The MSF suggests that:

- ◆ As a minimum, pallets should be secured with cargo nets to prevent loss of containment and dropped objects. Cargo nets are only to contain the load and prevent dropped objects; however, nets will not prevent structural pallet damage from sling lifts;
- ◆ Consideration should be given to the use of approved attachments (such as crane fork attachments) for the safe lifting of pallets by crane.

Members may wish to refer to:

- ◆ [Dropped Pallet During Loading Of Stores](#)
- ◆ [Pallet Failure: High Potential Dropped Object During Lifting Operations](#)
- ◆ [Guidelines for lifting operations \(IMCA SEL 019\)](#)

6 Basket Snagged on Ship's Structure

What happened?

The Marine Safety Forum (MSF) has published [Safety Alert 19-14](#) relating to an incident whereby a basket snagged on the ships structure causing damage to the vessel and basket.

A cargo basket designed for tubulars was being backloaded at the stern of the vessel. The lift was initially lowered to the deck to steady it. As it was being lifted to be repositioned, the basket swung to starboard into the restricted hose bay area and at the same time the vessel dipped in the waves, causing the basket to snag on the protection bar around the hose bay. The basket suddenly came free and landed on an adjacent container causing minor damage. The basket also swung into the ship's handrails causing minor damage. Vessel crew were in a safe place and there were no injuries.



Basket being lowered to deck



Basket snagged on protective rail



Basket swung under protective rail



Basket stacking pins snagged on inside of protective rail



Damage to vessel structure



Damage to adjacent baskets

Members may wish to refer to:

- ◆ [Guidelines for lifting operations \(IMCA SEL 019\)](#)