

# IMCA Safety Flash 10/15

July 2015

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](mailto: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](http://www.imca-int.com/links). Additional links should be submitted to [webmaster@imca-int.com](mailto:webmaster@imca-int.com)

## I Near Miss: Dropped Object Fell from Crane Boom

A member has reported a near miss incident in which an object was discovered which must have fallen from the crane boom. It happened during crane operations when it was noticed that a piece of steel measuring approximately 70mm x 40mm and weighing approximately 300g fell from the boom tip area to the deck. It was assumed (and investigation clearly indicated) that the object came from the inside of the crane hook pocket. This means that the object fell from approximately 100 metres.

The DROPS calculator suggests that such an object hitting a person from that height would have caused a fatality.

Location of Deck Foreman      Location of dropped object



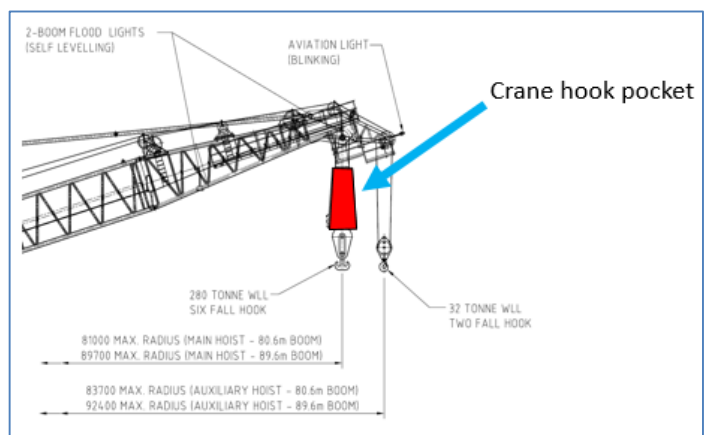
Location of incident



Dropped piece of steel



Internal condition of crane pocket



Our members' investigation revealed the following:

- ◆ Continuous movement of the main block inside the crane hook pocket caused damage to such an extent that a piece of steel broke loose and fell down;
- ◆ The crane hook pocket had been designed for storing the main block during transportation. The crane hook pocket could be locked against the boom using hydraulic pins;

- ◆ When using the auxiliary hook the crane hook pocket was locked against the boom. This caused steel on steel movement of the main block inside the crane hook pocket when booming up and down;
- ◆ Crane inspections only included load bearing parts of the crane;
- ◆ The crane hook pocket had been designed bearing in mind that the auxiliary hook would not be used frequently;
- ◆ No documentation was available on how this crane hook pocket should be used when using the auxiliary hook (locked against the boom or unlocked);
- ◆ An engineering bulletin from the crane manufacturer was not properly taken up by management.

Members may wish to refer to the following similar incidents (search words: *dropped, crane*):

- ◆ [IMCA SF 04/11](#) – *Crane boom dropped object*
- ◆ [IMCA SF 01/12](#) – *Crane hook block dropped to deck*
- ◆ [IMCA SF 02/15](#) – *Dropped object near miss: Falling crane block.*

## 2 Dropped Object Near Miss: Antenna Parts Worked Loose and Fell to Deck

A member has reported a near miss incident in which part of a single side band (SSB) antenna fell off the mast to deck during bad weather. The antenna had three parts which were threaded and screwed together. The first part of the antenna was not fully screwed into the second part. In high winds, the antenna was waving back and forth in the wind which caused it to loosen and become detached. There were no injuries.

Our member notes that this incident could have had a much more serious outcome had one of the base plates dropped from a height.



SSB antenna above bridge



Detached antenna shown on deck afterwards



Our member took the following actions:

- ◆ Damaged antenna was removed from above bridge and replaced with new one;
- ◆ Ensured correct practices were used for securing all navigation/communication equipment at height and/or on masts;
- ◆ Thorough check of all existing equipment above bridge or at height and/or on masts, most especially after installation or maintenance by a third party;
- ◆ Crew “time out for safety” carried out emphasizing hazards and risks of working at height and/or on masts, particularly the area above the vessel bridge (sometimes called the *monkey island*).

The following lessons were learnt:

- ◆ Continual vigilance is called for where there is even the potential for loose objects to fall from height;
- ◆ Visual inspections should be thorough and careful;
- ◆ Equipment at height that is exposed to the elements (for example on masts and on the *monkey island* above the bridge) should be regularly checked to ensure there is nothing working loose or any loose objects which may fall in bad weather conditions.

Members may wish to refer to the following similar incidents (search words: *mast, dropped*):

- ◆ [IMCA SF 04/10](#) Incident 2 – *Falling object [from mast];*
- ◆ [IMCA SF 06/13](#) Incident 3 – *Near miss: dropped object - falling camera.*

Members should refer to the following IMCA safety promotional material intended for use by vessel crews:

- ◆ [IMCA SPP 04](#) – *Avoiding dropped objects*;
- ◆ [IMCA SPC 12](#) – *Avoiding dropped objects*.

### 3 Control of Sub-Contractor Personnel: Unplanned and Uncertified Lifting Operations

A member has reported a near miss incident in which sub-contractors' lifting operations had to be stopped due to several unsafe conditions. Sub-contractors were found using uncertified lifting equipment, and lifting slings were being used over sharp edges of vessel frames. Work was stopped by shore-based staff visiting the vessel.

It was found that:

- ◆ The crew and the sub-contractor personnel were unaware that they were engaged in potentially dangerous and inappropriate lifting practices;
- ◆ The sub-contractor had conducted no planning or pre-job inspection;
- ◆ Such risk assessment as had taken place, failed to consider all hazards, including the uncertified equipment and unsuitable position of lifting slings;
- ◆ The sub-contractor's supervisor was not present when the operation started;
- ◆ Vessel crew failed to verify safety of job planning and certification of equipment when issuing the permit to work (PTW);
- ◆ Vessel crew and contractors failed to exercise the stop work policy when work was conducted in an unsafe manner.

Our member took the following actions:

- ◆ Stopped the job, held discussion with sub-contractor personnel and vessel crew;
- ◆ After management review, fabricated and welded on a pad eye to facilitate safe lifting activities.

The following lessons were identified:

- ◆ Proper task risk assessment should be conducted at the planning and implementation stages to ensure that all potential hazards are identified and all necessary and required safety precautions are put in place;
- ◆ All equipment used for lifting operations should be properly certified and suitable;
- ◆ All lifting equipment should be inspected before and after use, and certification status should be confirmed accordingly, before issue of PTW;
- ◆ There should be appropriate control of sub-contractor's personnel. If there is direct management control of the operations of a sub-contractor, or if contractor management has a 'prevailing influence' over the operations of sub-contractors, then the responsibility for safety generally remains with the contractor.

Members may wish to refer to the following similar incidents (search words: *control, sub-contractor, stop*):

- ◆ [IMCA SF 16/09](#) Incident 1 – *Near miss: Unexpected lowering of a suspended load*;
- ◆ [IMCA SF 10/13](#) Incident 1 – *High potential near miss: Lifting equipment failure*.

### 4 Poor Storage Leading to Failure and Disintegration of Cutting Discs

A number of incidents have come to IMCA's attention in which cutting discs from one manufacturer have failed and disintegrated whilst in use. When using hand-held rotating machinery of this sort, there is great potential for serious harm to the operator and anyone nearby should this happen, given that the discs rotate in excess of 12,000rpm. It was initially suspected that this was a manufacturing fault affecting a batch of these discs.

However, subsequent investigation has revealed that the cutting discs failed as a direct consequence of being stored in inappropriate conditions. This followed discussions with the manufacturer of the discs. Once notified of the problem, the manufacturer quickly investigated the circumstances of the disc failures and have identified that the manner in which the discs were stored is the most likely root cause of the problem. Below is an extract from their report:

*"The discs at some point have been subject to damp conditions. When bonded abrasives are subjected to dampness this often leads to a breakdown in the resin which has a very important role of acting as a binding agent in the make-up of the discs. Bonded abrasives should always be stored in dry, frost-free conditions avoiding wide variations in temperature, damp and humidity. They should always be properly protected and supported to prevent damage and distortion."*



It should be noted that there was no evidence that the discs supplied by this manufacturer were at fault in any way. The manner in which the discs were stored was the most likely root cause of the problem.

**Action:** Members are encouraged to review the **means of storage** for all cutting and grinding discs in order to prevent any similar occurrence, with particular reference to ensuring that such storage avoids wide variations in temperature, damp and humidity.

Members may wish to refer to the following similar incidents (search words: *disc, cutting, grinding*):

- ◆ IMCA SF 11/11 – Grinding disc with defects.

Members should be aware of the IMCA pocket safety card on cutting and grinding safety, [www.imca-int.com/media/102554/imcaspc11.pdf](http://www.imca-int.com/media/102554/imcaspc11.pdf).

**Stay Safe at the Wheel - Cutting & Grinding Safety**

**Before Use**

- ◆ Always examine power tools before use and check that they have been inspected and maintained within the last six months
- ◆ Ensure that power tools are fit for use: check that electrical power cords, pneumatic hoses and isolation switches are all in good condition and that the proper guard is in place. Any suspect or damaged equipment must be quarantined and tagged 'Unsuitable for Use' or similar
- ◆ Always inspect wheels/discs. Lightly tap the wheel with a non-metallic object. If the wheel does not 'ring' or sounds dead, **do not use it**
- ◆ If a permit to work is required, ensure that you have it and that safety issues have been explained during the toolbox talk prior to starting the task

**Procedures**

- ◆ Always use the correct wheel for the right tool and the right job
- ◆ Never try to use over-sized or under-sized wheels/discs
- ◆ Do not over-tighten the spindle nut
- ◆ Do not use a wheel/disc without a maximum RPM marked on it
- ◆ Handle grinding wheels/discs with care and store them appropriately
- ◆ Ensure conditions are appropriate for use of portable electrical equipment
- ◆ Keep hands away from moving parts
- ◆ Ensure the auxiliary handle, if attached, is used
- ◆ Do not modify or remove factory fitted guards

**Handling**

- ◆ Always carry power tools by the handle
- ◆ Do not pull the power cord or pneumatic hose to disconnect from the power source



No. 11 in a series of pocket safety cards issued by the International Marine Contractors Association  
Issue 1 - October 2005

**Stay Safe at the Wheel - Cutting & Grinding Safety**

**PPE**

- ◆ Wear eye goggles **and** a full-face shield to protect your face
- ◆ Wear properly-fitting work gloves and safety shoes in good condition
- ◆ Remove jewellery. Avoid loose clothing and tie long hair back
- ◆ Wear long-sleeve heavy-duty coveralls
- ◆ Use a dust mask when appropriate and wear ear defenders during extended periods of operation
- ◆ Where possible, place barriers around the area where grinding/cutting is taking place to prevent other people from entering

**During Use**

- ◆ Check your footing and maintain a good balance at all times to avoid losing control of the grinder, particularly if working on a vessel
- ◆ Keep power cords away from the grinding wheel, from heat, oil and sharp edges and ensure that they do not present a trip hazard
- ◆ Remain aware of the direction the sparks are going and ensure they do not present a hazard to people or equipment
- ◆ Wait until the grinder reaches full speed before bringing the grinding disc or cutter into contact with the job
- ◆ Do not apply excessive pressure on the wheel or the disc - this will reduce your control and could stress the wheel or disc, leading to premature failure
- ◆ Always disconnect and isolate the equipment from the power source before installing or changing wheels or discs
- ◆ Do not lay down a tool while the disc or wheel is still turning

**After Use**

- ◆ Always switch the power off and disconnect electrical tools or bleed residual air from pneumatic tools after use
- ◆ Report any defect with the tool to your supervisor

For more information on IMCA's safety-related initiatives, please visit our website at [www.imca-int.com](http://www.imca-int.com)



## 5 Daughter Craft Man Overboard Incident

The Marine Safety Forum has published the following safety flash regarding a non-fatal man overboard incident. A vessel was on location performing routine duties. A Daughter Craft (DC) had been used for a drill and was in the process of being recovered when the boatman engaged in this work fell backwards into the water when the small boat jerked to starboard. He was recovered and was uninjured. No other party was injured during the incident.

The main conclusion drawn was that the boatman did not secure his safety harness to the harness point and did not convey this to the deck crew. Also, the deck crew lowered the davit wire without confirmation that the boatman was secure.

Causes: Failure of communication, failure to be aware of safety responsibilities, failure to use PPE appropriately.

The safety flash can be downloaded from [www.marinesafetyforum.org/upload-files//safetyalerts/msf-safety-flash-15.19.pdf](http://www.marinesafetyforum.org/upload-files//safetyalerts/msf-safety-flash-15.19.pdf).

Members may wish to review the following similar incidents (search words: *man overboard*):

- ◆ IMCA SF 16/13 Incident 2 – Fatality – Man overboard;
- ◆ IMCA SF 02/15 Incident 5 – Near miss – Man overboard.

## 6 Lithium Battery Contents in Eyes

The Marine Safety Forum has published the following safety flash regarding an incident in which a crewman was splashed in the eyes with material from a Lithium battery. The incident occurred offshore whilst the ship's Electro Technical Officer (ETO) was engaged in the repair of a ship's instant reaction electronic welders mask. The tablet style lithium ion battery to the mask needed replacing and due to the compact nature of the equipment it was considered that this could only be done by soldering connections on to the new battery. The original mask battery was soldered by machine soldering. The repair required manual soldering for obvious reasons. The first connection was made successfully and whilst soldering the second connection the lithium battery overheated and popped causing the battery contents to spray out into the ETO's eyes.

Personnel nearby reacted rapidly and correctly applying copious quantities of water to the injured person's eyes. There was no permanent harm to the injured person's eyes.

The root causes of the incident were:

- ◆ Failure to use personal protective equipment (PPE);
- ◆ Inadequate time was allowed between soldering operations for the battery to cool down causing it to over-pressurise and fail resulting in the injury;
- ◆ Inadequate work planning or programming – the work was seen as “everyday” which resulted in an inadequate risk assessment.

The safety flash can be downloaded from [www.marinesafetyforum.org/upload-files//safetyalerts/msf-safety-flash-15.20.pdf](http://www.marinesafetyforum.org/upload-files//safetyalerts/msf-safety-flash-15.20.pdf).

Members should be aware that IMCA provides a useful series of safety prompt cards, one of which is “keep your eyes on safety” – [www.imca-int.com/media/102581/imcaspc14.pdf](http://www.imca-int.com/media/102581/imcaspc14.pdf).

### Keep your Eyes on Safety

**Prevention is better than blindness**

**Before starting work**

- ◆ Ensure your machine has appropriate guards and screens
- ◆ Ensure you have correct eye protection for the job in hand
- ◆ Ensure you know the location of first aid equipment and eye-wash stations

**Most eye injuries result from one of four avoidable hazards**

- ◆ Avoid being struck by small particles from cutting or grinding. These can penetrate poor eye protection.  
*Wear the correct protection and **always** use side shields*
- ◆ Avoid striking your eyes against objects or hand tools.  
*Wear the correct protection and **be aware** of your surroundings*
- ◆ Avoid contact with dangerous substances such as molten metal, acids, fumes and dust.  
*Wear the correct protection and **do not rub your eyes** with dirty hands*
- ◆ Avoid exposure to radiation - welders 'arc eye', lasers, excessive heat

**WEAR EYE PROTECTION**

**Many incidents occur when eye protection is lifted to take a closer look.**

**Keep your goggles on throughout the job!**

### Keep your Eyes on Safety

**What to wear to protect your eyes**

Hazard	What to wear
- Chemicals	Safety goggles, face shield
- Dust irritation	Safety goggles
- Heat damage	Safety glasses/goggles, face shield
- Impact injuries	Safety glasses/goggles, face shield
- Optical radiation	Specially filtered goggles/helmet

NB Safety glasses should **always** include side shields

**In the event of an injury**

- ◆ **DO NOT rub the injured eye under any circumstances**
- ◆ In the event of a chemical splash, remove contact lenses immediately
- ◆ Do not attempt to remove anything embedded in the eye
- ◆ Flush the eye immediately with clean water for as long as possible
- ◆ Speed is essential to avoid damage to the eyes - seek medical assistance immediately

**Your eyes cannot be replaced**



No. 14 in a series of pocket safety cards issued by the International Marine Contractors Association

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