

Dropped Object from Crane Boom Tip Causing Injury to IP Foot

SAFETY ALERT

Description of incident:

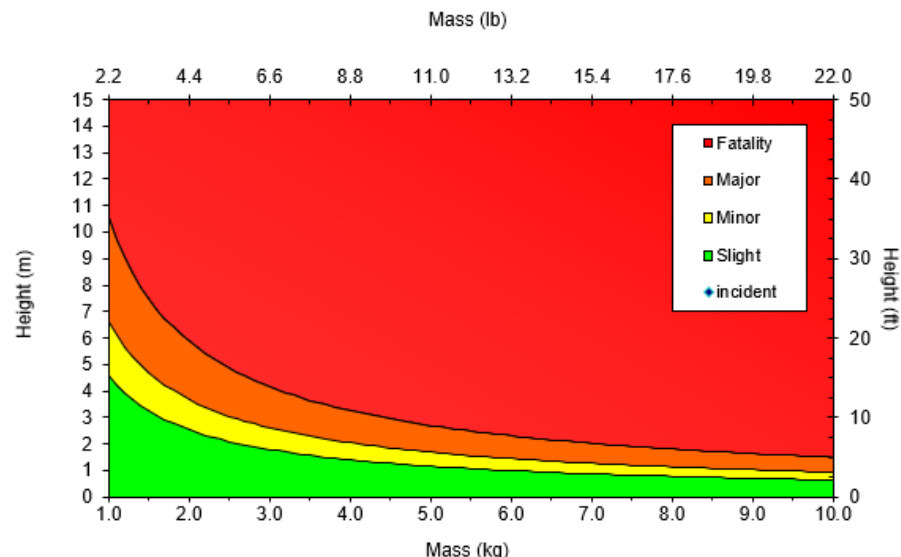
During normal platform lifting operations, under no load, an object fell from the crane boom tip, descending a height of approximately 20m before deflecting off a container and striking the IP on the foot who was situated approximately 5m away.

Subsequent investigation determined the dropped object to be a rope sheave guide bar (Weight: 1.03Kg) that had become detached from the boom tip due to failure of the nylon locking nut. On further review, it was found that the nylon locking nut was badly corroded and had been removed during recent maintenance operations and then re-used as a temporary measure until a replacement nut could be sourced. The subsequent operation of the crane introduced sufficient dynamic loading to loosen the nut, resulting in it falling from the crane and allowing the rope guard bar to fall to deck.

The drops calculator showed that a direct impact of the object from this height could have resulted in a fatality.



Outcome Calculator		
Height	20	m
Mass	1.03	kg
Outcome	Fatality	202.02 Joules



Important information for Users

GRAPH FUNCTIONALITY: For full functionality, please Enable Content where prompted. For information, a single Macro is employed in this workbook to rescale the top Mass(lb) axis where applicable.

CALCULATOR ASSUMPTIONS: The Calculator assumes that full PPE is being worn and that the object is blunt (no sharp edges - outcome would be worse).

CALCULATOR ACCURACY: The DROPS Calculator is a guide only and is intended to give a general idea of the potential severity of a dropped object. A detailed and specific risk assessment will always deliver a more accurate calculation of potential severity.

KEY DESCRIPTION

- FATALITY:** Death resulting from an injury or trauma.
- MAJOR:** A Lost Time Incident (LTI). Non-fatal traumatic injury that causes any loss of time from work beyond the day or shift it occurred. Also referred to as Day Away From Work Case (DAFWC).
- MINOR:** A Medical Treatment Case (MTC). A Work-related injury that does not involve death, day(s) away from work, restricted work or job transfer, and where the employee receives medical treatment beyond first aid.
- SLIGHT:** A First Aid Case (FAC). Limited or no injury. Treatment may be limited to first aid.

Good practice

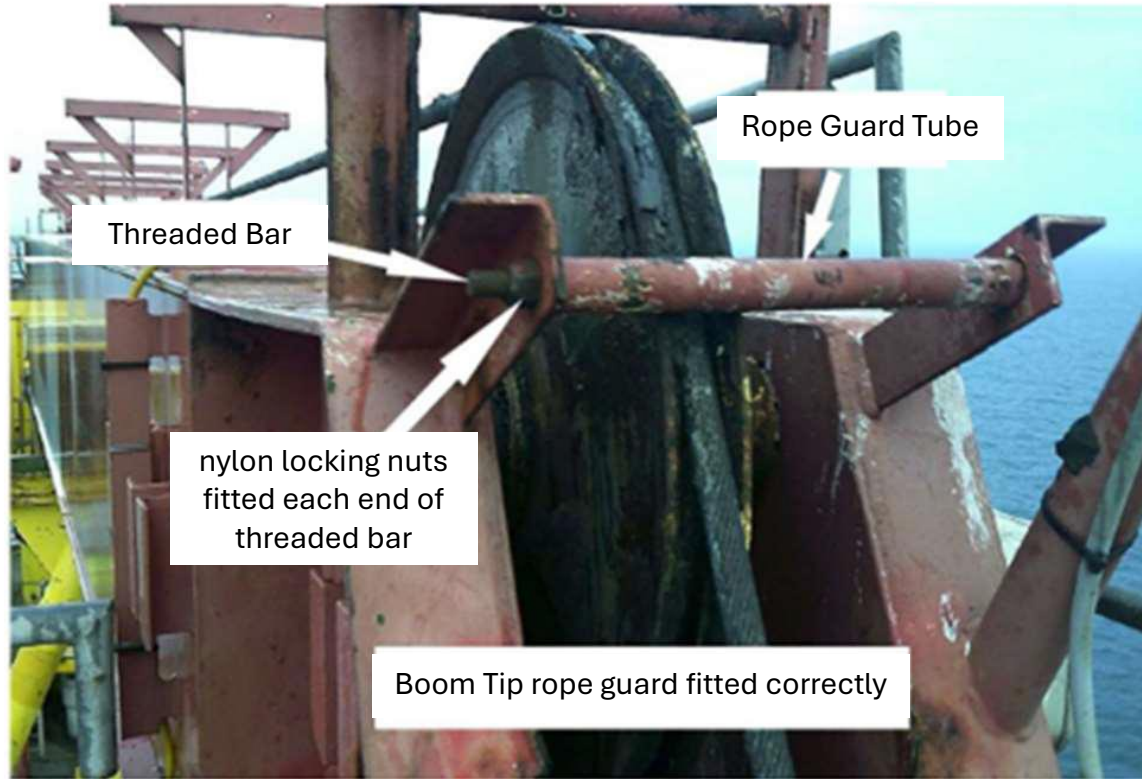
- Maintenance tasks not to commence until an inventory check of all consumables, parts, tooling, and procedures has been completed.
- Nylon locking nuts are an accepted and well-used form of secondary retention. It must be noted that they are designed for single use only, and re-use can compromise the integrity of the component when used as a means of secondary retention.
- Refer to <https://dropsonline.org/> for further information and guidance.
- Temporary solutions must be risk assessed and approved under an Operational Risk Assessment (ORA) or equivalent measure with a time-bound period to rectify.

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Crane Setup



Boom tip assembly prior to incident



Rope Guard Tube Missing



Nylon locking nut