

Elevator Guide Roller Drops to Deck Below

SAFETY ALERT

Description of incident:

A derrick elevator guide roller weighing 0.6kg was discovered on the drill floor in front of the drilling control room (DCR).

The roller is normally attached to the derrick elevator. The elevator was parked at its lowest position of 10.5m at the time the object was found. The elevator can operate to a maximum height of 57.1m.

Findings:

Severe corrosion of the elevator guide roller bearing allowed it to drop free of the assembly.

A 100% close visual inspection was carried out on the elevator roller assemblies by the rig crew, which included rotating the rollers to feel for bearing ‘rumbling’ which would indicate signs of corrosion or wear.

Following this inspection and replacement, the elevator was put back into service.

Recommendations:

Planned maintenance recommendations:

- Arrange a 100% change out of roller bearings for elevator, creating a base line for future maintenance.
- 6 monthly planned maintenance to de-load and inspect roller assemblies, including mechanic oversight of OEM roller inspections to verify bearing condition.
- OEM Inspection criteria and reports to contain adequate detail on inspection completed.
- Establish a 60-month life span for roller bearings which may be adjusted based on 6 monthly inspections.
- OEM to review design for secondary retention (consider all failure modes).
- Review maintenance learnings for other roller bearing assemblies (e.g. pipe handling, v door, bop trolley).

Derrick Elevator

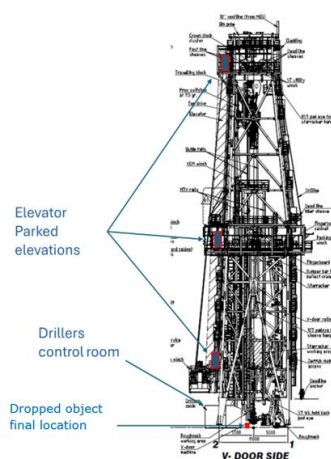


Image of dropped object:



Example of roller in location



During the inspections of the remaining roller assemblies, it was identified that a further roller assembly was not rotating freely, the bearings below were removed from the assembly for detailed inspection, one which was found to be in poor condition. Thus, highlighting the importance of not relying on visual inspection only.

Roller 2 bearing shields side 1



Roller 2 bearing shields side 2



Internal condition



Pair of bearings from 1 roller:

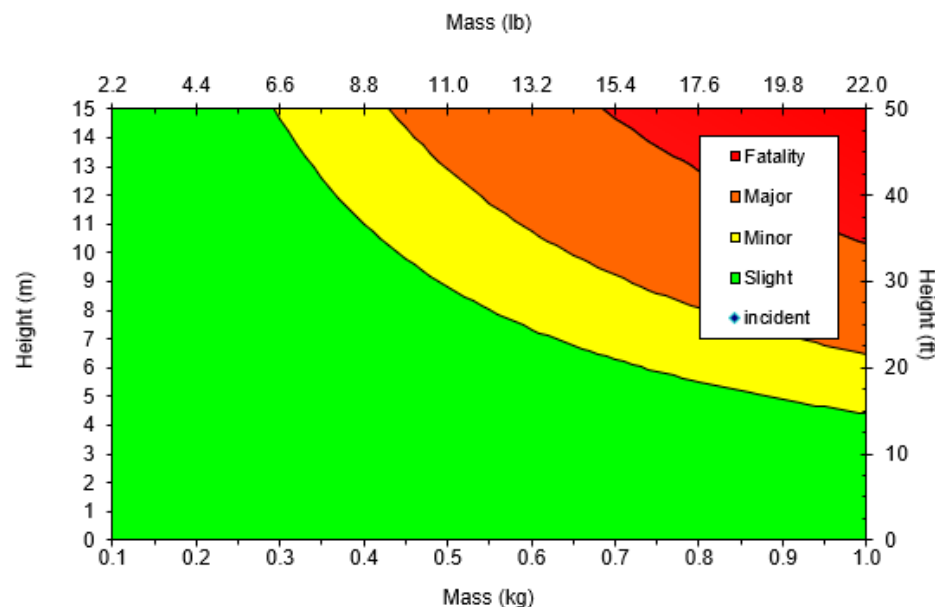
Left indicates “good” condition

Right clearly indicates poor condition

Derrick Elevator Guide Roller Drops Calculation:



Outcome Calculator		
Height	10.5	m
Mass	0.608	kg
Outcome	Minor	62.61 Joules



NOTE: The graph above displays an 'incident' icon for visual purposes only and the axis is restricted to 15m / 10kg. The OUTCOME CALCULATOR panel at the top of the page displays an accurate outcome for all input values

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.