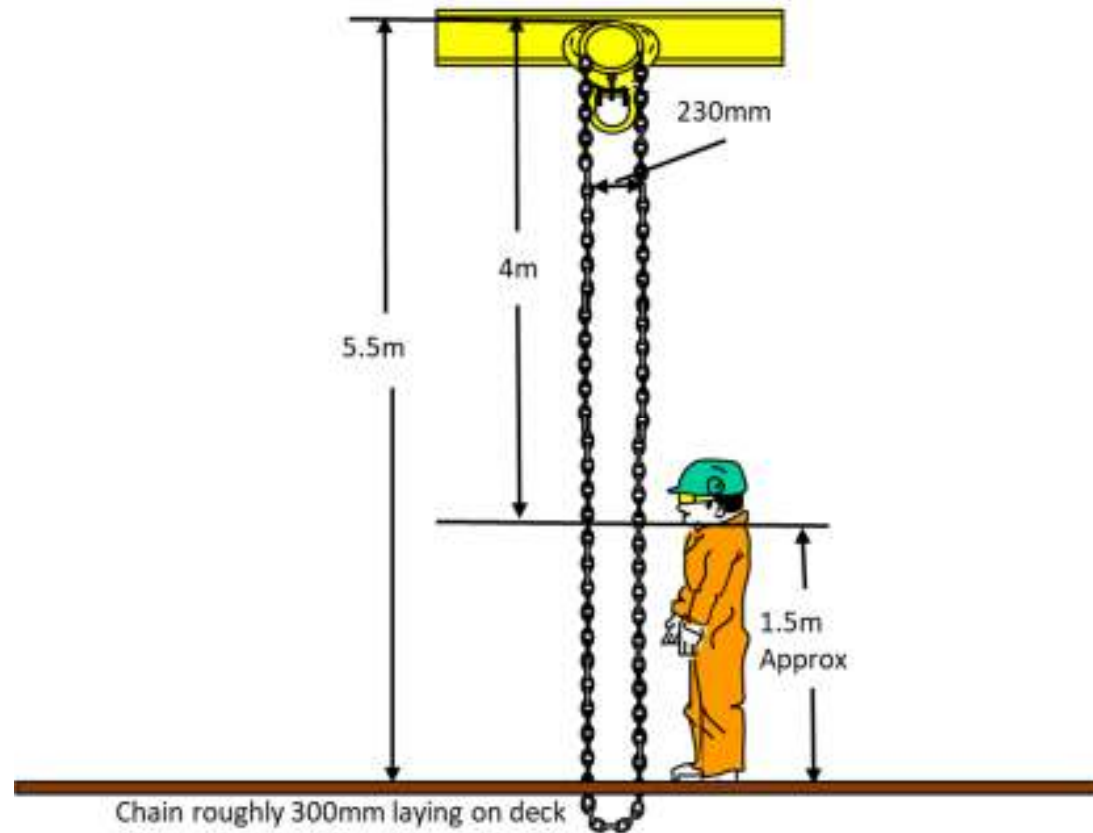# ALERT
Dropped Object

Geared Beam Trolley Movement Chain

Alert Information

- This incident actually happened
- The 15te SWL geared beam trolley had been installed on the runway beam the previous night
- The trolley was not under load at the time
- Pre use checks were being carried out by a competent person
- The injured party luckily only suffered slight discomfort
- Investigation found the trolley was correctly certified
- Investigation found the trolley had been installed correctly
- It was not possible to access the trolley at height for a close visual inspection
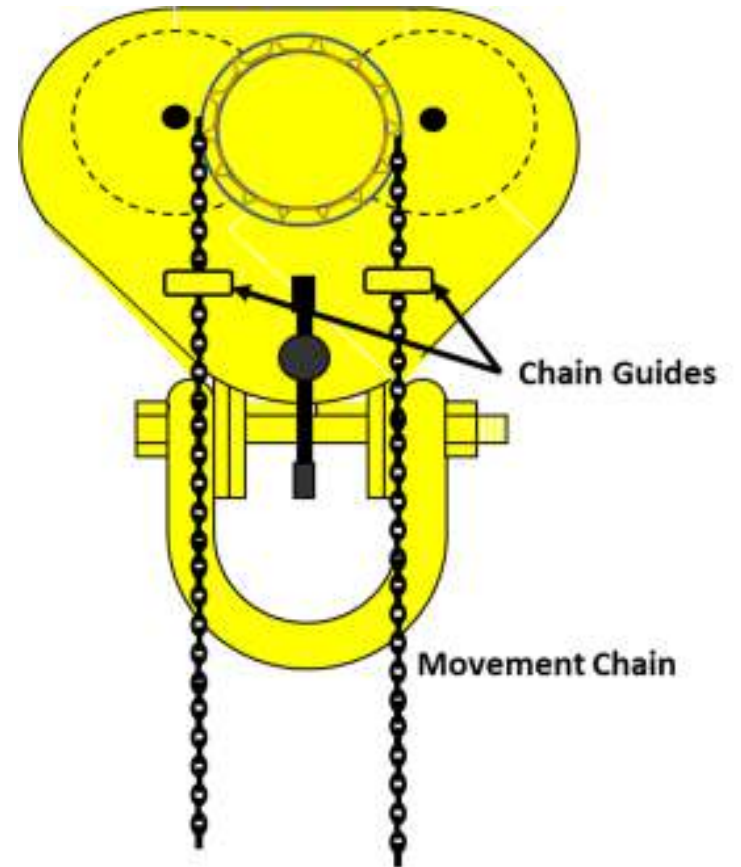
230mm

4m

5.5m

1.5m
Approx

Chain roughly 300mm laying on deck
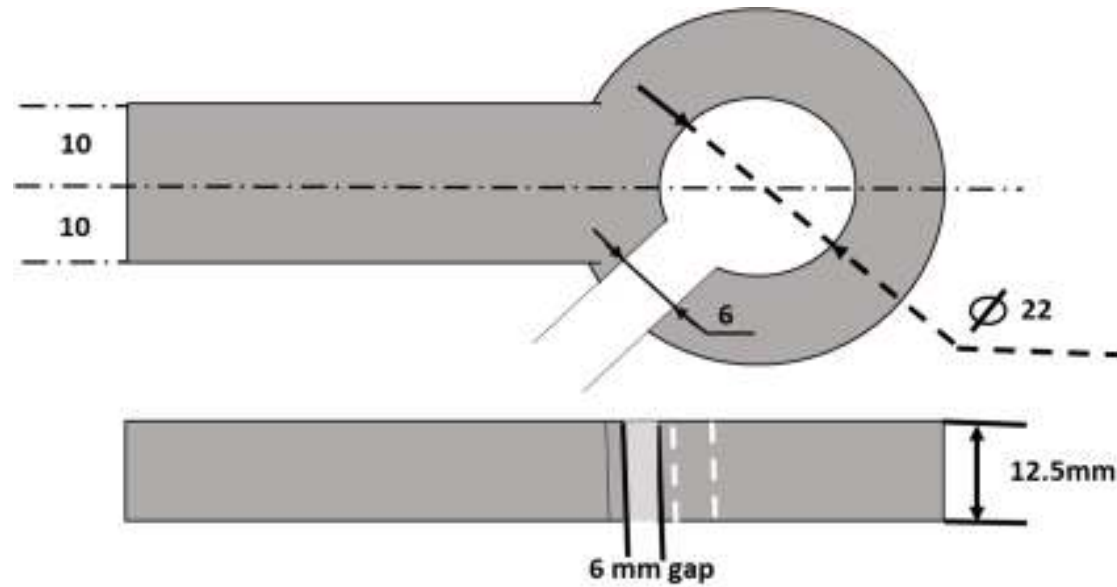
What Happened

During the pre-use checks of a geared beam trolley the movement chain disengaged from the trolley guide wheel and fell 5.5 meters to the deck. The dropped chain contacted an individual by a glancing blow to the shoulder.

Geared Beam Trolley

This only applies to geared beam trolleys with the chain guides as detailed in the following slides
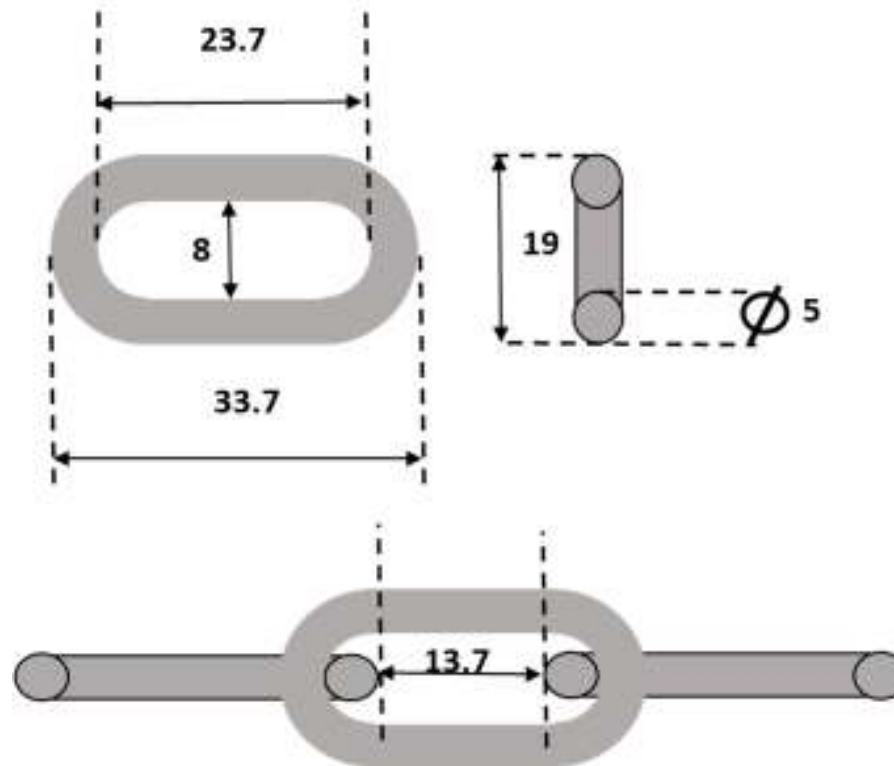

Chain Guides

Movement Chain

Chain Guide Specification

Dimensions shown: 10, 10, 6, Ø 22, 12.5mm, 6 mm gap

- Note the gap is detailed as being 6mm
- The depth of the guide is detailed as being 12.5mm
- The available distance between links is 13.7mm which again allows the link to freely come out of the gap

Chain Link Specification

- Zinc Plated Electrically tested
- Welded long link
- (Other chains may fit but ride over pockets)

The Problem

- As can be seen in the previous slides the chain guide specification is for a 6mm gap in the chain guide and the chain diameter is 5mm

- The gap in the chain guide is vertical

- The depth of the guide is 12.5mm the available distance between links is 13.7mm

- This means the chain can easily come out of the guide

- Once out of the guide the chain can then easily come off the chain gear wheel and become a dropped object

- Not all makes / models of geared beam trolley have this combination of chain guide and chain

The Solution

- Checks should be carried out to ensure the chain cannot unintentionally disengage from the chain guides
- If it is possible the chain can freely exit the chain guide the manufacturer should be consulted to agree a workable safe solution