

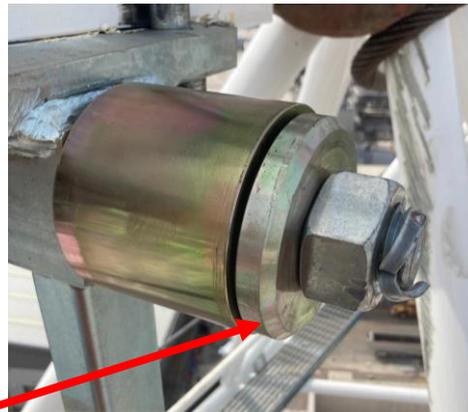
<b>Number</b>	<b>2022-05</b>	<b>Date</b>	<b>30.06.22</b>
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**Summary:**

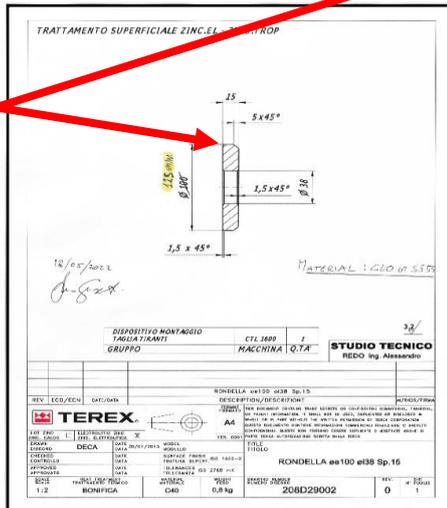
During the erection of a Tower Crane on site in the UK, a large plastic pulley wheel (called the erection sheave) located in the middle of the jib (used as part of the system to guide the jib into location during installation) detached. It failed under tension and fell to the ground after striking a scaffold on a neighbouring site outside of the large exclusion zone. At no point was the jib at risk of falling as it was secured to the construction crane with a separate slinging arrangement. No one was injured. Incident category - HiPo Near Miss



Another sheave on the same jib



Bearing of the detached sheave



Incorrect Washer

Correct Washer



Drawing showing incorrect size of washer

Replacement washer fitted to sheave

<b>Root Cause and Contributing factors</b>	<b>Lessons learned</b>
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The crane design drawing for this section of the crane listed the washers' size incorrectly (100mm instead of 125mm), so when the crane was assembled at their factory it was done so with the wrong sized washer.

The erection sheave washer installed to prevent the sheave coming off from its housing was too small, which resulted in it riding over the locking nut and the sheave falling to the ground.

- Correct sized washer using updated drawing was manufactured and installed onto HZI Crane
- Crane manufacturer is reviewing internal processes to make their checks at design/assembly level more robust
- Crane manufacturer issued a global safety alert to inform all customers of the incorrect sized erection sheave washer and the correct parts to be fitted
- At site level ensure that any exclusion zone is big enough to encompass the effect of dropped objects which do not fall vertically.
- Prestart inspections are key to identifying and preventing similar incidences.