

# NAFLIC

*National Association For Leisure Industry Certification*

Standards & Related Documents Committee

TECHNICAL BULLETIN — July 2014

## 373 Coupling failure on rollercoaster train – track impact implications

We would like to remind members of the possible consequences of primary coupling failure on rollercoaster trains or similar tracked rides, having cars that are connected as 'trailers' to a front of rear two-axle car.

Often the secondary coupling provided in the case of primary failure is a steel wire rope. Whilst this is satisfactory in maintaining the coupling of the train, it is liable to allow the following trailer to move closer to or so that the front end is supported directly upon the track rails. Depending upon the speed and the location of the train when a coupling fails, there could therefore be a significant impact hazard from any protruding elements (such as brake fins, drive motor wheels etc.), that although usually clear of the train envelope, now would encroach the lowered car, presenting an impact hazard.

It is therefore recommended that where an impact hazard exists, due to the combination of the circumstances (trailer-type configuration train, secondary wire rope attachment that allows significant vertical movement of a car in case of primary failure, and components or assemblies that protrude above the rails), that an appropriate risk assessment be carried out, and actions to eliminate the hazard implemented.

Please also be aware, in cases where cars of a roller-coaster train have 2 axles, of the risks of the coupling failing, and the coupling bar itself striking parts of the track structure (e.g. cross members) or protruding elements.

*As always, readers are reminded of your duties and responsibilities under HSG175 regarding modifications.*

***Risk Assessment:***

