

# Safety Alert – Hill/Valley ‘Tram’ based rides

## Background & Scope

This alert refers to the operation of hill/valley tram based rides such as Waltzers, Matterhorns etc. An accident occurred on a 30+ year old Waltzer in June 2010, when part of the tram failed and a girl was thrown from the ride receiving serious injuries. The HSE investigation is ongoing.

This alert refers specifically to those rides with a metal tram top running on a wooden frame. An example of a section of such a tram is shown at Fig 1:



**Fig 1**

For trams to break like this is not unknown and the possible outcomes of such failures could, on the evidence of this incident, be serious for riders, those watching and attendants/operators.

## Accident

Whilst investigations are ongoing, initial investigations suggest that the failure may have occurred close to a site of a previous repair where a redundant bolt had not been removed. It is possible that this bolt corroded within the wood to which the metal tram top was attached, and caused the wood to decay, weakening it.

When the tram is painted bolts such as this can appear identical to knots in the wood. See Fig 2



**Fig 2**

This weakening then resulted in a catastrophic failure of the timber support and the rail collapsed. See Fig 3.



### **Action required**

Ride controllers should conduct a thorough visual check of the condition of both the metal rail and the supporting woodwork to ensure there are no obvious signs of any deformation or rot around new or old fixings. Particular attention should be paid to areas where repairs have been made. Any future repairs to the tram, a safety critical part, should be discussed with your ride examiner and a design review conducted.

Ride examiners should, when conducting the normal annual inspection, thoroughly check the entire tram for structural integrity, paying particular attention to areas where repairs have been conducted, to ensure decay is not propagating from old fixings. Any tram repairs should be treated as repairs to safety critical components and reviewed as such.

Any further information required can be obtained from M Sandell on 07527002689.

M Sandell  
HM Inspector of H&S

Dated: 9 June 2010