

NAFLIC

National Association For Leisure Industry Certification

Standards & Related Documents Committee

TECHNICAL BULLETIN - SEPTEMBER 1999

190. Emiliana Luna Park Tagada Boom Fatigue

We have received information from Leisure Technical Consultants Ltd regarding fatigue cracking of the main boom of an Emiliana Luna Park (Italy) Tagada ride operating in Portugal. We don't have knowledge of the age of the ride nor of how much use it has had.

The boom, on this design, is tubular and the fatigue crack initiated from the weld toe at the end of one of the gusset plates linking the main pivot housing on to the side of the longitudinal boom member. This type of stress raiser is Class F (BS 7608) at best, having a non-propagating stress range of about 40 N/mm² (i.e. ± 20 N/mm²). In thin-walled tube it will be lower. It is mainly unbalanced passenger loading which contributes to the stresses at this position.

The crack was found early in its progress having propagated about 40 mm around the tube. In the absence of evidence that it is not necessary, it is our view that periodic inspection, looking for fatigue cracking, of this region of all Emiliana Luna Park Tagada booms would be advisable.

[Back in August 1992, NAFLIC member Wilson Consultants informed us of the collapse, again as a result of fatigue, of the main boom of a Soriani & Moser Tagada. This was reported in TB 025.]

Committee Members :- Dr Garry Fawcett (Chairman), Mr Richard Barnes, Mr Bob Nicholls, Mr Robert Casey,
Mr Peter Smith and representatives of Plant Safety Ltd, and Banwell & Associates Ltd

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