

NAFLIC

National Association For Leisure Industry Certification

Standards & Related Documents Committee

TECHNICAL BULLETIN - FEBRUARY 2000

200. Fatigue Cracking on Zamperla / Royo Dragon Roller Coaster

Back in Technical Bulletin 160 (December 1997) we reported on axle cracking in juvenile roller coasters. In particular, on that occasion, we drew attention to GMT "Runaway Train" and Zamperla "Dragon" axles. We also (TB 191 - September 1999) reported an axle failure on a Pinfari looping coaster - the ZL42 model, an adult ride.

We have recently received further evidence of the Dragon problem from NAFLIC members MP Fairground Inspections. In this case, the ride was manufactured in Spain by Royo Industrias under a commercial agreement with Zamperla

MP Fairground Inspections have informed us that they have identified fatigue cracking on a Dragon in both front and rear axle types. The cracking was found, on the vertical swivel attachments, in 7 different locations on the one train. The worst of these had propagated about 20 mm into the adjacent cross-section.

They have also informed us of cracking in a motor carrier frame tube (i.e. a fabricated, banana-shaped, tube) on the same ride.

We repeat our earlier advice that maintenance personnel and Inspection Bodies should be aware of the need for careful monitoring of this cracking, particularly on the axles, since there is clearly potential for serious accident.

Committee Members :- Dr Garry Fawcett (Chairman), Mr Richard Barnes, Mr Bob Nicholls, Mr Robert Casey,
Mr Peter Smith, Mr Richard Cousins and Mr Ian Grant

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2A GROVE PARADE, BUXTON, DERBYSHIRE. SK17 6AJ
TEL: (01298) 22384 FAX: (01298) 70784